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The Commonwealth of Massachusetts.

SIXTH ANNUAL REPORT

OF THE

PUBLIC SERVICE COMMISSION.

JANUARY, 1919.

Part I.—Reports and Orders.



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The Commonwealth of Massachusetts.

PUBLIC SERVICE COMMISSION.

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JOSEPH B. EASTMAN, Winchester, . . . Term expires July 1, 1920.
EVERETT E. STONE, Springfield, . . . Term expires July 1, 1919.

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TIMOTHY F. DESMOND, Cambridge, *Telephone Inspector*.
PATRICK J. DRIELANE, Boston, *Temporary Telephone Inspector*.

OFFICE, NO. 1 BEACON STREET, BOSTON.

The Commonwealth of Massachusetts.

*To the Honorable Senate and House of Representatives in General Court
assembled.*

We respectfully submit the sixth annual report of the Public Service Commission: —

COMMISSIONERS' REPORT.

During the year an Act was passed, chapter 283 of the General Acts of 1918, reducing the number of commissioners from five to three, and the term of office from five years to three years. The Act provided that two of the new appointments should be made from the existing membership of the Commission, but this rule was in fact followed in the case of all three appointments. No other change was made in the Public Service Commission law, except that the governor was empowered to select commissioners "regardless of political affiliation", and that single commissioners were given the right, under certain restrictions, to conduct investigations, inquiries and hearings.

A table is herewith presented, similar to the tables in our last two annual reports, indicating the volume of work requiring the attention of the Commission during the year.

		<i>Petitions.</i>	
Class.		1917.	1918.
Railroad,	. . . . .	68	60
Street railway,	. . . . .	162	178
Telephone and telegraph,	. . . . .	4	5
Miscellaneous,	. . . . .	2	1
		— 236 —	244
		<i>Investigations.</i>	
Railroad,	. . . . .	4	2
Street railway,	. . . . .	6	3
Telephone and telegraph,	. . . . .	3	—
		— 13 —	6
		<i>Complaints.</i>	
Railroad,	. . . . .	186	153
Street railway,	. . . . .	195	210
Telephone and telegraph,	. . . . .	725	993
Miscellaneous,	. . . . .	17	12
		— 1,123 —	1,368
		<i>Applications.</i>	
Railroad,	. . . . .	114	97
Street railway,	. . . . .	114	128
Telephone and telegraph,	. . . . .	—	7
Miscellaneous,	. . . . .	22	12
		— 250 —	244
		1,622	1,861

It was thought by some that the passage of the special acts relative to the Boston Elevated Railway Company and the Bay State Street Railway Company and of the general "service-at-cost" act for all street railway companies, together with the taking over of the railroad, telephone and telegraph properties by the Federal government, would materially reduce our duties, but the Commission has not been sensible of any such reduction. As in the two years previous, work was carried on by the commissioners throughout the summer months without vacation. The new situation has given rise to new duties, as will hereinafter appear.

RAILROADS.

On December 28, 1917, the President took over the possession, use, control and operation of all the railroads of the country engaged in general transportation, including controlled water lines, and provision was made by Congress for the operation of these transportation systems while under Federal control and for the just compensation of their owners in an Act approved March 21, 1918. Control may continue during the period of the war and for a reasonable time thereafter, not exceeding twenty-one months.

The situation has caused some uncertainty. The Act of Congress provided that the carriers, while under Federal control, should be "subject to all laws and liabilities as common carriers, whether arising under State or Federal laws or at common law, except in so far as may be inconsistent with the provisions of this Act or any other Act applicable to such Federal control or with any order of the President." It was also provided that nothing in the Act should be construed "to amend, repeal, impair, or affect the existing laws or powers of the States in relation to taxation or the lawful police regulations of the several States, except wherein such laws, powers, or regulations may affect the transportation of troops, war materials, Government supplies, or the issue of stocks and bonds."

The language quoted leads to the inference that Congress did not intend to reduce State regulation to a nullity, but wished to preserve it, so far as it did not interfere in any proximate and tangible way with the transportation of troops

and munitions, and that this regulation which it sought to preserve included authority over intrastate rates, for the regulation of rates is undoubtedly an exercise of police powers. The interpretation placed upon the Act by the Railroad Administration, however, has apparently been very different. We say "apparently", because no authoritative and comprehensive statement upon this subject has been made either by the Director General or by his immediate legal advisers. In practice it has been assumed by the Railroad Administration that the President, acting through the Director General, has power to initiate intrastate as well as interstate rates, regardless of the provisions of State statutes, and that the State commissions have no power of review over rates so initiated. They have been filed with the State commissions "for information only" and not in accordance with State statutory provisions. In the case of service, the practice has varied, but it has seemed to be the theory that the power of the Director General over service and accommodations is complete and that the State commissions may exercise authority, if at all, on sufferance only.

In regard to questions of local service and accommodations, we are glad to say that no dispute over authority has arisen in Massachusetts. The jurisdiction of the Commission in these matters has not, so far as we are aware, been questioned by the New England representatives of the Railroad Administration. In the case of rates, however, the situation is otherwise.

At the time of our last annual report, Commissioner Anderson of the Interstate Commerce Commission had just finished hearings in Boston upon the application of all railroads operating in New England for approval of substantial increases in both passenger and freight rates. These hearings were held jointly with representatives of the State commissions of New England, in order that time might be saved and the benefits of mutual conference secured. On April 16, 1918, the Interstate Commerce Commission approved practically the increases which were sought — namely, an increase in single ticket passenger rates from $2\frac{1}{2}$ cents to $2\frac{3}{4}$ cents per mile and a corresponding increase in mileage ticket rates, an increase in trip-tickets rates of 25 per cent, and new class freight rates corresponding to the schedule which had recently been pre-

Rates.

scribed by the Interstate Commerce Commission for Zone B (Central Michigan) of Central Freight Association territory.

On May 25, 1918, however, before these new rates had been made effective, Director-General McAdoo issued an order, applicable all over the country, placing single-ticket passenger rates and mileage ticket rates on the basis of 3 cents per mile, increasing commutation and trip-ticket rates 10 per cent, and increasing freight rates in general 25 per cent. The passenger rates so authorized superseded those approved for New England by the Interstate Commerce Commission, but in the case of the freight rates the 25 per cent was added to the new class rates which the Commission had authorized, rather than to the old rates. This was at least the intent, although it has as yet been carried out only by the New Haven company. The Boston and Maine and the Boston and Albany companies for the time being increased the old rates 25 per cent, but expect to introduce the new and higher scale at an early date.

The rates so ordered by the Director-General were made effective intrastate as well as interstate, without compliance with the provisions of our statutes. In our judgment there is doubt whether they are lawful in Massachusetts. Under war conditions, however, the Commission did not feel justified in provoking litigation over the matter, but contented itself by informing the Director-General in writing, as well as the Federal manager and the president of each of the roads, that it questioned the legality of the rates and would feel free to take such action in accordance with this view, after the war was over, as the public interest might seem to demand. In our judgment, Congress ought, if possible, to clear up this doubt relative to intrastate rates in any action which it may take upon the railroad situation. So far as Massachusetts is concerned, the question is not very important in the case of freight rates, for the great bulk of the traffic is interstate; but this is not true of passenger rates. In our opinion the State commissions ought at least to retain jurisdiction over intrastate passenger charges. This traffic is of great local significance, and should be dealt with in accordance with local conditions. The tendency of centralized national control will, we fear, be towards uniformity, and to treat the great suburban traffic moving to

and from Boston, for example, upon some standardized basis which may not be fairly adjusted to local needs.

At the time of his order increasing rates, the Director-General asked all State commissions for advice "in perfecting the rates thus initiated" and in making "the inevitable readjustments needed to accomplish the largest measure of relative justice." When the new rates were introduced, it soon became apparent that they were unjust in important respects to New England, and upon the invitation of this Commission hearings were held in Boston by representatives of the commissions of the six New England states, at which shippers were given an opportunity to present complaints. These hearings resulted in the submission of a Memorial to the Director-General, signed by members of all these commissions, stating concisely the grounds for complaint and the relief asked for. This Memorial is printed in full in the appendix to this report. It was followed up by correspondence and conference with the Washington authorities and resulted in the abandonment of the attempt to do away with the so-called "differential rates" to the West via the Canadian lines, which have been in existence for more than forty years and are of so much importance to our industries.

Less progress has been made in the case of complaints over coal rates and class freight rates, but we have reason to believe that the need for adjustment is recognized, and that there is reasonable prospect that relief will eventually be given. The local class rates in New England are now on a substantially higher basis, in general, than the corresponding rates in the adjoining territory west of the Hudson river, and discriminate unfairly against our industries. Disproportionate increases have also been made in the rates on bituminous coal moving all-rail and by rail and water into New England, notwithstanding the peculiar importance of such rates to this part of the country.

This situation illustrates, we believe, the value of having some official State body equipped to deal with questions relating, not only to local, but to interstate rates and service, even if it possesses no direct jurisdiction over such matters. In the past this fact has not been recognized in New England to the extent that it has in many other sections, especially in the Middle West and the Far West. The prosperity of Massachusetts is

closely interwoven with its transportation facilities, and, while our commercial organizations can be counted upon to guard their interests in proceedings before the Federal authorities, the commonwealth has a still broader interest of its own which ought to be adequately represented and protected. It is the hope of the Commission that it may be able to continue the work along these lines which it has undertaken during the past year, and, if the need develops as we believe it will, we shall feel free to ask the General Court at its next session for an increased appropriation for our Rate and Tariff Department. At present it consists of one man and a stenographer and is handicapped, both as to time and facilities, in the research and investigation which rate questions often require.

During the year the Commission, at the request of the United States Railroad Administration, submitted a report in regard to the physical condition of the railroad properties within the state and the passenger and freight service afforded. This is given in full in the appendix to this report. Some considerable progress has been made by the New Haven and Boston and Maine roads in improving track and terminal facilities, but the Commission found that, owing to the difficulty in securing labor, ordinary maintenance work had in certain cases been much delayed. Mild weather in November and December, however, made it possible to recover some of this lost ground.

Passenger service has been greatly curtailed since the beginning of the war for the purpose of conserving fuel and facilitating the movement of troops and munitions. Now that the war is over, the question must receive renewed consideration. It is beginning to be apparent that the railroads in this part of the country will seek from motives of economy to retain the schedules which were introduced for the sake of "winning the war", and that they will claim that the former service was unnecessarily frequent and the present service adequate. The change which has taken place may be indicated by the fact that in the winter of 1910 there were 636 passenger trains entering and leaving the North station in Boston per day, while the number at the present time is 368. Of course it has been possible to accommodate traffic only by running longer trains and using

heavier engines. The trains are now so long that they have outgrown station platforms, in many cases, and also terminal facilities in Boston, and the liability to delay has been materially increased. The smaller communities outside the Metropolitan district are now receiving service which is woefully meager, and the cities have much less express service than used to exist. The situation has been aggravated of late by the fact that the raising of street railway fares has thrown much additional traffic upon the steam railroad lines. It undoubtedly calls for thorough consideration at an early date.

Freight service, on the whole, has improved during the past year. At all events, there is less congestion upon the lines at present than for some years past. This is in part due to the slackening of traffic since the war ended. In this connection, aside from general conditions, there seems reason to believe that the greatly increased minimum charges for handling freight have diverted much short-haul traffic to motor trucks. On this point see the report of the chief of our Rate and Tariff Department which is submitted with this report.

During the year the Commission has made no very definite progress in the investigation of terminal conditions in Boston, provided for by chapter 149 of the Resolves of **Terminal Conditions.** 1916. This has been due to the uncertainty caused by the war and to the fact that, under Federal control of railroads, methods of operation have changed. The total amount of freight handled in Boston by all roads, both house and yard, was 14.5 per cent less in November, 1918, than in the corresponding month of the previous year. In the case of house freight the decrease has been more than 25 per cent.

As above indicated, the decrease in the general volume of traffic has had much to do with this, but other factors enter in. One is the adoption of the so-called "sailing day" plan, under which less-than-carload freight is shipped from the important distributing centers to the smaller stations in New England only on certain designated days of the week. Another is the policy of moving less freight through Boston. Formerly it was the practice to ship into Boston from outlying points much freight destined to the West, in order that it might be consolidated with the large tonnage shipped from here, thus increasing the

number of through cars to distant western points and making it possible to expedite service. At the present time, the favored plan is to move such freight through outlying points like Worcester, rather than through Boston, holding tonnage at these points long enough to accumulate sufficient bulk for through car service, independent of the Boston shipments.

Whether or not these new practices will in the long run prove satisfactory remains to be seen. An extension of the "sailing day" plan is now proposed which is creating some alarm among shippers, and it may prove that the new method of handling western shipments will result in objectionable delays. In the meantime, however, congestion at the Boston terminals has undoubtedly been reduced very materially.

In the past, complaint has frequently been made of delay in transferring carload freight between the terminals of the Boston and Maine on the north side of the city and those of the New Haven road at South Boston, via the Union Freight railroad operating along the water front over the public streets. Early in the year, when the tonnage in South Boston was much heavier than it is now, this Union Freight railroad was unable to meet the demand, so that it became necessary to divert the surplus transfer business over the roundabout route via the Grand Junction line of the Boston and Albany, through Allston, Cambridge and Somerville. The attention of the Washington authorities was called by the Commission, as no doubt it was by others, to the possibility of improving this situation by the construction of 900 feet of track over Northern Avenue bridge, thus shortening the Union Freight railroad route by nearly 22,000 feet, and not only reducing the distance between terminals 70 per cent, but avoiding the necessity of handling the transfer business through the passenger terminal yard at the South station. The tracks on the bridge have since been laid, but the opening of this new route has been delayed by necessary repairs to the bridge itself, although it may be expected in the near future.

Another important question relative to the Union Freight railroad is whether this line, which is owned by a separate corporation but is entirely controlled by the New Haven company, can properly levy a separate switching charge, as has always been the practice, or should be regarded as a part of the New

Haven terminal system in Boston, upon which it ought fairly to make free deliveries. This question is now being considered by the Commission, although the amount of intrastate business handled is so small that the decision will probably rest with the Washington authorities.

In 1916, and again in 1917, the Commission recommended legislation amending and clarifying the general railroad laws of the commonwealth, so that they might in future more effectively bar the way to such transactions, relative **Legislation.** to the securities of other companies, as the New Haven company has been guilty of in the past. In 1917, the statute so recommended was passed by the House of Representatives, and later by the Senate in amended form. Inability to agree upon the exact wording, however, unfortunately resulted in no legislation at all. Last year the Commission did not renew this recommendation, owing to the fact that all railroads were under Federal control, realizing that so long as this status continued any question as to the form and substance of State statutes was of comparatively little consequence. At the present time, however, it seems possible that the roads may return to private management in the not distant future. Under these circumstances it seems well to urge this legislation again, and a draft of a bill embodying it is herewith submitted.

It has been brought to our attention that there is no provision of law in Massachusetts authorizing a railroad to take, by eminent domain, land for the construction of tracks to reach nearby industrial plants. The development of an established industry may be hindered by its inability to get a railroad connection over land of no great value for any other purpose but which is owned or controlled by competitors or other adverse interests, sometimes for the express purpose of preventing such connection. The encouragement of industrial development is manifestly in the public interest, and warrants the extension of the existing powers of railroad corporations relative to land takings so as to include the right, subject to the approval of the Commission, to take land for locations of tracks extending to manufacturing or other industries, and we recommend the passage of legislation to accomplish this purpose, a draft being submitted herewith. There are precedents in other states for such legislation.

EXPRESS COMPANIES.

On July 1, 1918, the four principal express companies of the country transferred to a new corporation, known as the American Railway Express Company, all their property, excepting cash or treasury assets and certain real estate; and upon the same date a contract became effective under which the Director-General employed this new express company as the sole agent of the Government, under his supervision, to conduct the express business upon all lines of railroad under Federal control. Later, on November 16, 1918, the President, by proclamation, took over the possession, use, control and operation of this express property.

As in the case of railroad rates, the Director-General has assumed that he possesses the power to initiate changes in express rates exempt from suspension by either the Interstate Commerce Commission or State commissions, and has acted upon this assumption. Whether or not he deems the rates so initiated to be subject to review by the commissions has not, to our knowledge, been stated. The increase which he has recently authorized, and which became effective on January 1, 1919, was made to meet an estimated increase of expense of about \$12,000,000. The opinion of the Interstate Commerce Commission was sought, not as to the amount of revenue needed, but as to the method of obtaining it. At the hearings before the Commission in October last, an interesting question developed. Under the new express contract the railroads receive, as compensation for the services which they perform for the express company, 50.25 per cent of its gross receipts, a percentage arrived at merely by averaging the percentages provided for in the contracts existing at the time when the new contract was drawn. To meet an increase of \$12,000,000 in its own expense, therefore, it was necessary for the express company to secure an increase of *twice that amount* in its gross receipts.

The disadvantage of this procedure to the public was apparent; and it was pointed out by representatives of State commissions at the hearings before the Interstate Commerce Commission that the increase in expense could be met if the percentage of receipts turned over to the railroads were reduced

from 50.25 per cent to about 45 per cent. Just before the new contract was made, the Adams Express Company was paying 46.5 per cent on local business and 48.5 per cent on through business to the New Haven road, while the Boston and Maine was receiving but 42 per cent from the American Express Company, and its directors had claimed great credit for securing this amount in place of the 35 per cent which had been the subject of so much criticism. It appears that no scientific study of this question has been made in the past and that there is no special presumption in favor of the 50.25 per cent, owing to the financial control which the railroads have exercised over certain of the express companies in the past. Serious consideration of this question was urged upon the Interstate Commerce Commission by various State commissioners, including ourselves. In its opinion rendered on October 22, 1918, the Commission made the following comment:—

This basis of compensation is certainly not scientific, and under it the express company does not pay the railroad company for the service which the railroad performs upon any demonstrably appropriate basis. The railroads have been and are compensated by the United States Government for transporting the mails on the basis of the weight carried or of the space occupied in the cars or trains. A similar basis of charges by the railroad company to the express company would, we think, be preferable to the basis now and heretofore employed, and would obviate the embarrassments and inequities to which we have referred as growing out of the past and present basis of contract. The question of a different basis of compensation from the express company to the railroads is well worthy of study.

Notwithstanding this expression of opinion an increase in express rates amounting to \$24,000,000 was initiated by the Director-General.

While this increase became effective on January 1, 1919, as above stated, on both interstate and intrastate traffic, there has been no compliance with the laws of this commonwealth relative to the subject, nor has any schedule been filed with this Commission. It is obvious, therefore, that the same doubt exists as to the legality of these rates within Massachusetts, as in the case of the intrastate railroad rates which have been initiated by the Director-General.

TELEPHONE AND TELEGRAPH COMPANIES.

On July 13, 1918, Congress adopted a resolution empowering the President to take possession and assume control of telephone and telegraph properties during the war, for a period not to extend beyond the date of the proclamation by the President of the exchange of ratifications of the treaty of peace. On July 31, 1918, all the properties of this character in the country were taken over under authority of this resolution, and the Postmaster-General was placed in charge. The resolution contained a clause similar to section 15 of the railroad control act, providing that nothing should be construed "to amend, repeal, impair, or affect existing laws or powers of the States in relation to taxation or the lawful police regulations of the several States except wherein such laws, powers, or regulations may affect the transmission of Government communications, or the issue of stocks and bonds by such system or systems." Unlike the railroad control act, the resolution made no reference to the manner in which rates might be initiated.

Notwithstanding the language above quoted, in practice the Postmaster-General has assumed that he has power to initiate changes in telephone and telegraph rates, exempt from suspension by the Interstate Commerce Commission or the State commissions, and he has already acted upon this assumption by prescribing and placing in immediate effect certain telephone installation and moving charges. It is a fair conclusion that he believes that rates so initiated are not subject to review by either Federal or State commissions, upon the theory that no such right was reserved in the resolution of Congress.

When the new installation and moving charges were introduced, however, the companies operating within this state complied with the statutory provisions by filing schedules with the Commission, and these schedules were permitted to become legally effective in due form, the Commission stating in the order which was entered that this action was taken, not because it believed that the new rates were necessarily "just and reasonable", but because they had been initiated in time of war by the Postmaster-General of the United States, placed

in charge of the properties by the President. As originally established, these installation and moving charges seemed ill-advised and inequitable in certain respects, but changes have recently been made eliminating the more objectionable features.

On December 13, 1918, the Postmaster-General issued an order directing that comprehensive changes in telephone toll rates be made throughout the country. On December 21, 1918, a schedule embodying these changes was filed by the New England Telephone and Telegraph Company with this Commission, effective January 21, 1919. The new rates have been widely heralded in the press as reductions of existing charges. What their effect may be throughout the country as a whole, we do not know, but certainly they do not represent reductions in Massachusetts. The contrary is, in general, the case, as shown by the following typical illustrations:

(1) The present "two-number" or "station-to-station" call from Boston to Whitman costs 15 cents. Under the new schedule it will be 20 cents. The person-to-person charge is now 20 cents, but will become 25 cents. The call for a non-subscriber is now 20 cents plus the messenger charge, but will become 30 cents plus the messenger charge. Under the new schedule, moreover, if the party called for is not available, a report charge of 10 cents will be made, a charge which does not exist at the present time.

(2) The person-to-person rate from Boston to Fitchburg is now 30 cents, there being no station-to-station rate. A messenger charge is added to the 30 cents on a call for a non-subscriber. Under the new schedule there will be a station-to-station charge of 35 cents, a person-to-person charge of 45 cents, and a 50-cent charge on a call for a non-subscriber, plus whatever is paid to the messenger. There will also be a report charge of 10 cents.

(3) The person-to-person rate from Boston to Springfield is now 55 cents, there being no station-to-station rate. A messenger charge is added to the 55 cents on a call for a non-subscriber. Under the new schedule there will be a station-to-station charge of 55 cents, a person-to-person charge of 65 cents, and an 80-cent charge on a call for a non-subscriber, plus whatever is paid to the messenger. There will also be a report charge of 15 cents.

Now that the war is over, it does not seem to the Commission that it ought to accept these large advances in rates upon the mere decree of the Postmaster-General. A hearing will, therefore, be held and the opportunity given to submit

reasons for the change. If adequate cause can be shown, the new schedule will be permitted to become effective. If the supporting evidence seems insufficient, an order will be entered cancelling the schedule. If this latter course should be taken and the Postmaster-General should nevertheless insist upon the introduction of the new rates, the matter will be referred to the Attorney General for such action as he may deem within the power of the commonwealth, under the circumstances.

In 1915, in 1916, and again in 1917, the Commission asked the Legislature to grant it a special appropriation of \$25,000, to make possible a thorough study of the telephone rate situation within the commonwealth. The reasons for these requests were fully stated, and in this connection we refer especially to the fourth annual report of the Commission, made to the General Court in January, 1917. (See pages xxvi to xxix.) It was not intended to duplicate the investigation made by the Highway Commission several years ago, but to enable this Commission to employ temporarily the special engineering and accounting assistance necessary to enable it to supplement this investigation and use the data then assembled to the best advantage at the present time. Last year the Commission did not renew this oft-refused request, stating that "prevailing high prices of materials and the increases in wages which have been or probably will be granted, make the present outlook for any reduction in rates as a result of an investigation very doubtful", and that the "depletion in clerical forces of the company by enlistment and the draft which has taken place, and the still further depletion which is likely to occur, make it a bad time to impose extra labor upon the statistical, accounting and engineering departments".

One reason for seeking a small special appropriation for investigating purposes in the past has been the hope of securing a more equitable adjustment of rates which would result, on the whole, in lower charges. At the present time, however, the order of the Postmaster-General relative to telephone toll rates, as well as other circumstances, leads us to believe that a new reason now exists for the appropriation. In other words, it is desirable that it should be granted, not so much in the expectation that a reduction in rates may follow, although

this is not impossible, but in order that the interests of the people of the commonwealth may be adequately protected at a time when general advances in rates are likely to be sought. Whether the companies continue under Federal control or return to private management, it is not at all improbable, in our judgment, that there will be an effort to increase charges, although it may take the form of a revision or "standardization" of rates. Labor accounts for so large a portion of the expense of operation that further advances in wages which are now impending are very likely to bring this about, and even more likely under private than under public management, for important economies may be effected through joint operation of the wire systems, if they remain in Federal control.

Whether or not we are right in these anticipations, in all events a policy of "preparedness" is not less wise in this instance than it usually is. In order, therefore, that the Commission may be adequately equipped to protect the interests of the people of the commonwealth and to meet all contingencies, we respectfully urge again the granting of a small appropriation, and a draft of an act providing therefor is herewith submitted. It will be noted that it is drawn to cover the telegraph as well as the telephone situation.

During the year, upon information and complaints to the effect that at certain hotels rates or tolls for local telephone messages had been increased from 5 cents to 10 cents each, the Commission upon its own motion instituted an investigation of this practice. An opinion was rendered under date of September 30, 1918, which is given in full in the appendix to this report. The Commission found that the hotels were engaged in the business of reselling telephone service to the public without lawful right, and issued an order directing the telephone companies, on or before December 1, 1918, to cease to render private branch exchange service to licensed innkeepers, except upon condition that the service so furnished should not be resold, either directly or indirectly, and requiring the companies, in addition, to submit new schedules under which the hotels might, as agents, provide telephone service in their rooms and corridors at the regular rates charged from public pay stations. On November 18, 1918, however, the

Postmaster-General issued an order forbidding hotels, apartment houses, clubs or similar institutions from charging guests, tenants, or members for a telephone message an amount in excess of that charged for such service at the public pay stations in the same exchange. This order has been complied with. While there has been no technical compliance with the terms of our own order, the Commission has not felt that further action, for the present at least, is necessary, since substantially the results desired have been accomplished.

The telephone and telegraph department has continued its activity in the supervision of facilities and service, and has been, we believe, exceedingly useful to the public. Complaints are received and acted upon promptly without formalities, and every year more people take advantage of this opportunity to secure relief from what they deem to be unfair treatment or bad conditions of service. During the war it has been difficult for the companies to preserve proper standards of service, but as conditions return to a more nearly normal basis, this excuse will cease to exist.

STREET RAILWAYS.

The street railway situation in Massachusetts is critical. No problem with which the Commission has to deal is so serious, and at the same time so difficult of solution. The net earnings of the companies have fallen off to such an extent that their credit is impaired, their properties are deteriorating, their service is poor, and for this poor service the public is paying high prices. There are, of course, exceptions to this statement, but it sums up the situation with reasonable accuracy.

Some of the causes have their roots in the past, — such as overbuilding, cheap construction, ill-advised consolidations, and neglect of depreciation. Any one interested in this phase of the matter will find it covered in the statement made by the chairman of this Commission before the Street Railway Investigation Commission of the Legislature on November 28, 1917, which has since been published. More important than these remote causes, however, are the recent extraordinary increases in wages and prices, largely brought about by war conditions. Labor is the chief item in the operating expense of street railways, the payroll accounting for more than half

the total. During the past five years, wage rates have very nearly doubled on many roads, and the increase in the cost of fuel and other supplies has been quite as striking. A further cause, of importance, has been the development of competing forms of transportation, — notably, the automobile.

To meet these changed conditions, fares have been raised very freely and very generally. Only a very few companies have retained their old rates and several have made repeated increases. This has been a natural method of relief, and upon it, indeed, most of the remedial legislation enacted at the last session of the General Court was founded. The whole theory of the "Service-at-Cost" Act (Gen. Sts. 1918, c. 280) was to secure a more rapid and more perfect adjustment of fares to increasing costs, avoiding the delay and antagonism thought to be caused by public hearings before this Commission.

There is ground for the belief, however, that the situation calls for a more radical remedy than has yet been applied, if it is to be dealt with in the way which the general public interest demands.

It has been said that, if all the inhabitants of the country could be collected in the single state of Texas, it would still have less population to the square mile than now Importance of exists in this commonwealth. Primarily Massa-Transportation. chusetts is a manufacturing state, and the percentage of mill and factory workers in its comparatively dense population is very large. The importance to such a community of an efficient and cheap means of local transportation is obvious. There is no other way of preventing congestion, maintaining good living conditions, developing the country districts, and adjusting the supply of labor quickly to fluctuating needs in the various centers. This is stating the matter baldly and inadequately, but a moment's thought will make it unnecessary to amplify.

The community interest in transportation has already been recognized, in part. There was a time when private enterprise was relied upon in the case of ordinary highways. During the first half of the last century a multitude of turnpike corporations were chartered by the Legislature, with power to build roads between specified points and to collect tolls. Such

turnpikes were constructed from Boston in straight lines to all the principal surrounding towns, and even Beacon street was a toll road until 1868. Gradually, however, the collection of tolls was discontinued and the care of these turnpikes was taken over by the towns and counties. At the present time, our streets and highways are all built and maintained by public authorities, and the cost is carried by the community generally and is not assessed in proportion to the use which is made of them. No figures of total investment or total maintenance expense are available, but the original cost of state highways alone has been more than \$14,000,000, and the aggregate cost of city and town streets must be far greater.

As yet, this principle has not been applied to the steel highways which the street railways use, although many more persons must be carried in cars over these highways than are carried in other vehicles over the public streets, and although the general community interest is in other respects very clear. Broadly speaking, street railways are just as important to merchants, to mill, factory and land owners, although they may never ride in the cars, as they are to the people who use them every day. It will help in realizing this to think of the situation which would arise if the railways should cease operation, unless some equivalent form of transportation were substituted. The fact has, indeed, been given an indirect recognition in practice, for there is little doubt that, when the railways were originally built, real estate owners and business men at times took their securities with little hope of direct profit, but in anticipation of the indirect benefits which would accrue from their construction.

If street railways are a public necessity, like the highways, the schools and the drainage system — and they clearly are — street railway fares may be regarded as a form of taxation. In other words, it is now the policy to levy the cost of this public service upon the car riders alone through the fares which they pay, rather than upon the community as a whole through general taxation. Precisely the same principle might be followed in the other cases. For example, a road tax might be levied upon vehicles in proportion to size and mileage operated, or a school tax upon families in proportion to children

in attendance; but it has come to be settled practice and belief that it is in the public interest not to assess the cost of these enterprises in such a manner, but to allow it to be borne by the entire community.

There is no inherent reason why street railway service should not be regarded in the same light and treated in a similar way. If the streets are a benefit to the man who owns no vehicle, or the schools to the man who has no children, so are the street railways to the citizen who never uses them. The problem is really one of taxation, to be dealt with, not in accordance with mere custom or tradition, but in the manner which will produce the best results for Massachusetts. If the greatest good to the greatest number can be secured by continuing — in theory at least — to place the entire burden of the cost of street railway service upon car riders, objections are not in order; but, if this is not the case, the Commonwealth ought not to be deterred by mere prejudice or conservatism from following a different course.

What is it that we wish to accomplish? The answer to this question admits of no doubt. In the first place, the people of Massachusetts want good street railway service, a much better service than they are now getting. In the second place, they want fares which will promote, rather than hinder, the development of the state along right lines.

Can these things be accomplished as matters now stand? It is at least very doubtful, and this answer is made in the light of experience, observation and inquiry which have not been confined by the borders of this state. There are exceptional cases, of course, but, so far as the general situation is concerned, the reasons for pessimism are not hard to state.

Any healthy community keeps on growing, and its transportation facilities must grow with it. In the normal course of events, they require a steady inflow of capital.

In the case of our street railways, there is more than the ordinary need, for most of them have been doing business for about twenty-five years and have not made adequate betterments from time to time, so that there is reconstruction and improvement work which is now overdue. While the need for capital, then, is clear, results from operation and

Credit.

from increases in fares have been so disappointing that the credit of the companies, in general, is very poor.

This is true not only in Massachusetts but all over the country. Street railways have very generally ceased to be an attractive field for the investment of private capital. Even if net earnings should greatly improve, we are inclined to believe that it would be a long time before capital would flow in on anything like reasonable terms. Restoration of confidence is a long, slow process; and this is especially true where, as in this case, the properties involved are not new, have not been maintained in first-class condition, and are burdened with a substantial amount of accrued depreciation for which no provision has been made.

"It should never be forgotten that our public utility companies are not finished. They are in process; they are constantly calling for new capital and of recent years in increasing amounts. They must be kept on good trading terms with the investing public or the whole experiment of private ownership and public regulation of these public utility companies will fail. It is as necessary to attract capital into the public service as it is to prevent the mismanagement of these companies or extortion by them." "An impecunious street railway is a poor public servant; often it is an unsafe public servant." These are quotations from the opinion in the Middlesex and Boston case, decided by this Commission in 1914, and they are as true now as they were then. But it is well to face the facts squarely and, stating them frankly, we see little prospect, with a few exceptions, of placing the street railways of Massachusetts "on good trading terms with the investing public" without some radical change in present conditions.

The sole means at present of improving the financial condition, credit, property and service of the railways, for all these things hang together, is to levy a heavier tax upon the
Fares. car rider, — in short, raise fares. Two objections may be made to this method. One is that it does not produce the results which it is intended to accomplish; the other is that it does produce results which are injurious to the community.

No one can truthfully say that the raising of rates has not had a fair trial in Massachusetts. The 6-cent fare originated

here in 1905, and of late all manner of rates have been introduced. We now have 6, 7, 8 and 10-cent fares, and various "zone systems" which have even more sharply increased the charge for many rides. In the Metropolitan district of Boston fares have risen from 5 cents to 8 cents, with public trustees in charge of the property and without the contests and delays which at times have been incident to proceedings before this Commission. Moreover, all the companies have the opportunity, if they so desire, to accept the "Service-at-Cost" Act and the sliding-scale adjustment of rates to fluctuating costs for which it provides.

No other part of the country has been more liberal in its treatment of the railways, but the result has not been what was hoped. With all their raising of fares, our companies seem little nearer financial salvation. It has become an accepted principle that the increase in revenue is never in proportion to the increase in rate. Higher fares discourage riding, and what the roads gain on the one hand they lose, in part, on the other. The benefit which they receive is clearly less than the burden upon the car rider; and, if the process is carried much further, there may be no benefit at all. Few will dispute that the tariff proposed by the Bay State company, with its 10-cent minimum fare, its contracted city zones, and its high charges on the country lines, represents the maximum from which profit may be anticipated, and there are many who think it goes beyond the maximum.

Viewing the matter in the most favorable light, there is a chance that higher fares will, in time, cure the financial ills of our street railway companies, but the chance does not seem great, and there is no immediate prospect of such a cure. In the meantime the increased rates are injuring the community in ways which are evident.

When a street railway by raising fares discourages riding, it becomes at once less useful, less of a public servant; and this effect is cumulative. The tendency of a financially hard-pressed company, when its traffic falls off, is to reduce service, and this leads to still more loss of business. It is a question, indeed, whether some of our railways have not lost as much traffic from curtailed service as they have from increased fares,

and the two go hand in hand. More and more the burden falls upon those who ride from necessity rather than convenience, for the latter form of riding is the vanishing factor. A tariff such as the Bay State company proposes starts frankly with the assumption that few will ride who do not have to, and involves practical abandonment of the field of short-haul, convenience traffic.

Nor is this all. As the charges increase, the tendency of those who find it necessary to ride is to change their status, by seeking employment or residence where the necessity will no longer exist. To what extent this has yet been done, it is difficult to say, but no one who has given thought to the situation can doubt that it is a serious danger if fares go higher, or even if they remain at their present level, — especially if a period of business depression should set in. It is a danger attaching particularly to the so-called "zone system", which attempts to save the short-haul riding by casting the burden upon the long-haul, and often doubles or trebles the charge from a city center to nearby suburban points. Consistent as it is with cost-of-service principles, this system is inconsistent with the policy which has been followed in the past, and under which our population has been distributed.

Three-cent or even lower fares might, in years gone by, have been enjoyed in the inner Boston district through the establishment of a "zone system", but it was thought wiser to allow the short-haul business to pay for the long-haul and extend a uniform fare of 5 cents over as wide a territory as possible, thus spreading population and avoiding congestion. Upon this theory the Metropolitan district has been built up. Take the case of West Roxbury, situated some miles from the center of the city and filled with people of very moderate means. Under any "zone system" which might now be devised, this section of Boston would lose the advantage of the present uniform fare, suffer a disproportionate increase, and cease to be a suitable and attractive place of residence for many of the people who now live there. This is but one of many similar cases which might be cited all over the state. The radical difference between 5-cent and 10-cent suburban territory has been well recognized in real estate circles.

The choice in raising fares is therefore between a horizontal increase, which discourages short-haul riding, and a "zone system", which upsets established conditions, invites congestion, and stands in the way of the development of the country districts. In the long run, however, the results are equally undesirable and not very different, for a horizontal increase tends to become so high that it has a similar effect upon living conditions, and it is difficult to preserve a low fare in the central area of a "zone system", as further increases in rates become necessary.

Incidental disadvantages of higher fares are the incentive to competition and difficulties in collection. No matter how logical and convincing a case may be made against the largely irresponsible and unreliable operation of jitneys, it is difficult to enlist public opinion in opposition so long as the street railways charge higher fares and furnish poor service. Experience has also shown that the collection of fares, where pennies are involved or short zones are introduced, is subject to many difficulties and embarrassments which unfavorably affect both revenue and operation.

Summing up the matter, no one can view the present situation with optimism, or believe that the policies and methods now pursued are likely, unless general conditions change radically, to bring either good service or good credit, or to further the healthy growth and development of the community.

It is far easier, however, to fix upon the goal to be reached than to point the way to it, much less difficult to know what ought to be done than how to do it. Briefly stated, The Issue. the essential needs, from the standpoint of the future welfare of the state, are —

(1) Restoration of credit, or some other means of providing the capital necessary to place the street railway properties in condition for first-class service.

(2) Return to a basis of fares which will enable the railways to play their proper part in community life.

The prime necessity is good service, and it cannot be had without rehabilitation and improvement. Next to good service is a system of fares which will make the service as useful as possible, and help rather than hamper the development of the community on healthful and economically sound lines. Massa-

chusetts is not blessed with much natural wealth or with many geographical advantages, and other parts of the country are beginning to challenge her place in the commercial world. If it is to be retained, it will require the best possible use of her resources, foremost among which are her industries and her people. This means, among other things, the maintenance of good living and labor conditions. In this connection nothing is more important than cheap and good transportation facilities which will spread population, encourage living in the country districts, and give labor the mobility which the welfare of our industries demands.

As we view it, present conditions in street railway transportation, and still more the conditions which are in sight, both as to service and as to rates, are opposed to the best interests of the state. The only alternative, however, is some plan by which a portion of the cost of service will be taken from the shoulders of the car rider and be met by some form of general taxation. This suggestion is radical but, as above indicated, not wholly unprecedented. In the long run, poor transportation at high rates will damage the mill owner, the merchant and the land holder. In the long run, good transportation at low rates will operate greatly to their advantage. This fact lies at the root of our policy of state highway construction, and years ago it received clear recognition in the early days of steam railroad building, when both state aid and municipal aid were freely granted.

It is necessary to look beyond today and into tomorrow, to balance future benefits against present burdens. What we are now suggesting is not very different from what the steam railroads for a long time have actually been doing. They sell commutation tickets at very low rates, not because there is any direct profit, but because they believe that it is good policy to do so, in the public interest and ultimately in their own. The burden is borne by freight and other forms of traffic. In the present instance, the street railways have no other business which can carry the load and, if a portion of it is shifted from the car-riders, it must be borne by the community as a whole.

Even if the principle be conceded, however, it is not easy to apply it. In considering specific plans, an important limiting

factor at once appears. Section 1 of "Article of Amendment No. 15" to the constitution, submitted to the people by the recent Constitutional Convention and ratified at the last election, reads as follows:

SECTION 1. The credit of the commonwealth shall not in any manner be given or loaned to or in aid of any individual, or of any private association, or of any corporation which is privately owned and managed.

The language of this amendment is very broad. It is at least a question whether the expression "credit of the commonwealth" would not include the credit of integral parts, like the cities and towns, and no doubt it would cover financial aid provided through taxation as well as the actual borrowing of money. It would seem, also, that the language applies to indirect as well as to direct use of credit. If a portion of the cost of street railway service, then, is to be borne by the community as a whole, or if community credit is to be used in the furnishing of capital, it would seem to follow that the companies must either be publicly owned or publicly managed, and perhaps both.

To some, no doubt, this fact will seem sufficient reason in itself for refusing to consider any departure from the present policy. Unfortunately, public operation of public ^{Public} utilities has become one of the questions from which ^{Operation.} it is difficult to dissociate prejudice, either for or against. On the one hand it is "socialistic"; on the other, a panacea.

Realizing that it is exposed to certain dangers, we do not find the arguments commonly urged against public operation entirely convincing. Doubtless illustrations of inefficiency are not hard to find, but certainly it is no more difficult to find similar instances in the case of private management, as New England well knows from bitter experience. Under the spur of competition, private initiative probably develops maximum efficiency, but there is little evidence that this is true in the case of natural monopolies. Publicly operated enterprises may be manipulated improperly for political ends, but so may privately managed public utilities, as those who are familiar with political history will readily concede. In the past at least, these corporations have been one of the great corrupting influences. The public trustees of the Boston Elevated have

found it necessary to raise fares and have been unable, under the stress of war conditions and with the property which was taken over by them, to furnish good service; but, in general, this is equally true of the railway companies, both in this state and elsewhere, which have remained under private management.

Without venturing further into this realm of controversy, however, it will be agreed that this country has never hesitated to take over enterprises when private initiative could not be relied upon to produce the results demanded by the public interest. Illustrations are the schools, highways, canals, water ways, water supply, drainage, fire prevention and irrigation. If, then, a similar point has been reached in electric railway transportation, the commonwealth will be following no very novel or radical course if it now turns to public operation. While the management and operation of street railways would involve the exercise of administrative functions more complex in some respects than those of other enterprises which have already passed from private to public control, we have little fear that the changed conditions resulting from the assumption of direct public responsibility for this public service would be cause for more regret than in the cases above cited. No doubt the usual amount of human imperfection would be manifested in the case of public operation, but railway service comes so close home to the people that we venture to predict that they would not long tolerate a dishonest or inefficient public management. But, whatever view may be entertained of the relative merits of private and public operation where conditions permit free choice between the two, the fact that public aid seems to offer the only practicable means of escape from present transportation ills forces us, of necessity if not from choice, to include public operation as an integral part of any plan that may be devised for the solution of our street railway problems.

If we reach the conclusion, then, that it is wise to reduce fares to a more moderate basis and support the railways in part by general taxation, and that public ownership
Methods. or public operation is not an insuperable objection, the question of method arises. In this connection, the thought at once suggests itself that it would be well to leave open a line of retreat, to adopt the new policy, if it is to be adopted at all,

in some tentative way, so that, if it proves unsatisfactory or if conditions change radically, it may be possible to abandon the experiment and return without difficulty to the old policy.

The Commission has been impressed by this thought and has done its best to devise a workable plan of this sort. Various schemes have been considered, but none upon analysis has seemed wholly satisfactory. It is possible that a plan for temporary relief might be worked out by offering the companies the alternative of continuing under the present system, or of accepting public management and moderate fares, for a comparatively short period of years, coupled with certain annual contributions from the treasuries of the cities and towns in which they operate. If this plan were adopted, this public aid could be limited to a maximum of \$2 per thousand of assessed valuation, with the proviso that it should not otherwise exceed a sum sufficient to enable a company to meet operating expenses, depreciation requirements and fixed charges, and pay dividends of 5 per cent upon stock representing bona fide investment. Public management could be provided through a director-general appointed by the governor and placed in charge of every company accepting the plan, or the governor might be empowered to appoint all or a majority of the directors of each such company. Provisions in regard to fares, supervision and jitney competition would be similar to those set forth below in the discussion of a possible permanent acquisition of the properties. This plan might be criticized as a means of tiding the companies over a period of hard times at public expense, until a return to more favorable conditions should make operation profitable upon the old basis, but such criticism would not be fair, for the public would receive direct compensation for the financial aid granted, in the shape of lower fares than would otherwise prevail.

While this plan would, in our opinion, be preferable, both from the standpoint of the companies and of the public, to the present system of high fares and low earnings, the great defect in any temporary plan is the difficulty of providing the new capital which is necessary for good service and economical operation. This can be obtained only through the restoration of the credit of the companies or the direct use of public credit.

Even if substantial subsidies were granted to meet deficiencies in current earnings, no marked improvement of credit would be likely to result if the arrangement were merely temporary, without assurance for the future. The only alternative is the guarantee or purchase by the commonwealth, or by some sub-division thereof, of the particular securities which are issued to provide new capital. But this also is inconsistent with any temporary plan, as it might necessitate measures for protection against possible receiverships and would be likely to involve the commonwealth quite deeply and for an indefinite time in the affairs of the companies.

It is difficult, therefore, to escape the conclusion that the only plan which can be really effective in meeting the needs of the existing situation is the outright purchase or taking of the railways by the municipalities or by the commonwealth. Under public ownership there would be no trouble about capital, for the credit of the railways would be the credit of the community. Nor would there be any difficulty as to fares, for the commonwealth could at will continue the present policy of placing the entire burden upon car riders, or shift such portion of this burden as it saw fit to general taxation. It may be added also, that it would be entirely possible to place the management by contract in private hands, if such a course were deemed advisable. If the choice should be made in favor of public ownership and operation, however, certain practical questions must be faced. For the present we will do no more than indicate the nature of these questions, and suggest in a general way possible solutions.

What Railways shall be Taken? — From many points of view, it would be advisable to take all the railways operating within the state. If this were done, certain economies and improvements in operation doubtless could be introduced which would not otherwise be feasible, and the direction of affairs could be placed definitely in the hands of the central government of the state. It might prove, however, that certain sections of the community would be desirous of adopting the new plan, while others would not, in which event it would be possible to provide for the acquisition of particular railways by designated groups of cities and towns, as well as by the commonwealth.

And even if a general acquisition of the railways were undertaken, there are two important exceptions which now seem inevitable. In the case of the Boston Elevated Railway Company, provision has already been made for public operation covering a period of at least 10 years, by a statute which constitutes a contract between the commonwealth and the stockholders. If this property were taken, it would be necessary to consider possible damages accruing from the loss of these contract rights. The element of uncertainty thus introduced is so substantial that the acquisition would hardly be advisable, unless the stockholders should consent to an abrogation of the contract before the taking was made. This they might, perhaps, be willing to do, since their present position is assured only until 1928, a comparatively short period from the investment standpoint, as the price at which Boston Elevated and West End shares are now selling indicates. The other exception is the Massachusetts Northeastern Street Railway Company, which is an interstate road incorporated in both Massachusetts and New Hampshire, with its lines interlacing across the boundary between the two states. It would be impossible, from the point of view of practical operation to segregate the portion in Massachusetts. Possibly some feasible plan might be found for accomplishing, in the case of this road, substantially the results desired, but we have none to suggest at the present time.

What Price shall be Paid? — As a matter of procedure the taking could be made at once and a special tribunal could be constituted, adequately equipped to assess the damages after full investigation, subject to the right of the company or of the public to have the finding reviewed by the courts. This tribunal could either be the Public Service Commission or a body specially appointed for the purpose. Because the circumstances of the various companies differ so widely, it would be difficult to define by any general rule or formula the amount of the damages which might properly be assessed in any particular case. The companies would undoubtedly be quite willing to sell upon the basis of capital invested, but in the case of most of the roads this would be more than they can reasonably expect. While the Commission, in fixing rates, has permitted

the companies, so far as they may do so by the establishment of reasonable rates, to earn a return upon the original investment without deduction for depreciation except when due to mismanagement, this standard has in certain cases proved of little practical value, as many of the companies are apparently unable, under any rates which they may charge, to earn a fair return upon that basis.

Moreover, in any event, the measure of value in the case of purchase or condemnation of the properties is not necessarily the same as when the value is fixed for rate-making purposes. In the case of ordinary land takings, no one would think of basing the compensation upon original investment, and it would be difficult to demonstrate that this should be the rule in the present instance. If the commonwealth should acquire the properties, there seems no good reason for departing from the general rule by paying more than their present worth or reasonable market value. The special tribunal in assessing the damages to be paid by the commonwealth, would undoubtedly give due consideration to all pertinent facts and indicia of value, such as the original investment, the physical condition of the properties, the character of the territory served, the market value of securities, the recent course of net earnings and the extent to which the possibility of additional earnings has been discounted by increases in fare already made.

How are the Properties to be Managed and Operated? — There is room for wide difference of opinion in considering this question and we shall now attempt only to outline a general plan which might be followed, if all the properties were acquired with the two exceptions above noted.

Management and Operation.

(1) *Management.* — Somewhat the same plan might be followed as in the case of federal operation of the steam railroads, — namely, the appointment by the governor of one man as Director General of Street Railways, with authority to retain the present organization or to build up such other organization for their management as might seem to him desirable. No doubt he would wish to subdivide the system into relatively small districts in charge of responsible managers, so that the

advantages of direct local supervision over service might be secured, but to handle certain other matters, such as the purchase of supplies, or plans for rehabilitation, through a central department. In our judgment a single-headed direction of this kind is preferable to a board of trustees, there being less division of responsibility, quicker action and less liability to change. The advantages of consultation with others could, of course, be secured through the appointment of advisory committees. Such a director general should be given a reasonably long term of office, say five years (the governor retaining the power of removal for cause), and receive a salary comparable with those paid in private employ for similar responsibility. The position would be a difficult and trying one at best, and some assurance of adequate tenure and compensation would be necessary to attract a man of the requisite capacity.

(2) *Rates.* — The director general could be given full power to fix rates in accordance with certain general principles laid down by the General Court. There should be a minimum fare, we believe, of not more than 5 cents, but with this exception he could be given discretion to establish such schedules as would, in his judgment, produce the maximum revenue consistent with the free movement of traffic, the prevention of congestion in the city centers, and the proper development of the country districts. Very likely this would result in a return to fares not widely different from those which were in force four or five years ago, although higher in certain instances. The establishment of substantially lower fares than those now prevalent would make it possible, without harm to the public interest, to eliminate most of the special reduced-rate tickets, and it would also be consistent with the theory of public operation to eliminate half-fare tickets for school children. These tickets, however, are so firmly imbedded in the customs and traditions of the state that their elimination might be inexpedient, regardless of theory.

(3) *Supervision.* — It is our belief that the roads should continue, for the present at least, under the supervision of the Public Service Commission with respect to accounting, service and accommodations, and it is by no means certain that there should not be an appeal to the Commission on rates as well.

The director general would be primarily an executive officer, and experience with federal operation of the railroads has shown the need for some independent, semi-judicial and public tribunal with authority to act, in effect, as an arbiter of disputes. His time ought not to be taken up by long public hearings, but such hearings ought to be given by some tribunal, when the public believes that sound basis for complaint exists. The presence of an independent commission with powers of investigation would also help the governor in appraising the quality of the management, and would tend to prevent certain abuses which might otherwise gradually creep in.

(4) *Jitneys*. — If the street railways should be publicly operated at low rates of fare, the commonwealth would be entirely justified in protecting itself against destructive and unnecessary competition. A corollary of public operation, therefore, would be complete public control over the "jitney" situation. Excepting ordinary taxicab and carriage service, if any other common carriers of passengers are desirable upon the public highways, in addition to the street railways, the commonwealth should itself operate them, through the medium of the director general.

(5) *Taxation*. — If the street railways should become public property, there seems no reason for retaining present schemes of taxation, unless it could be shown that their elimination would result in an unfair burden upon communities having a disproportionate amount of street railway real estate. In any event, however, we believe that the present excise tax should be abolished, and some working agreement substituted between the municipalities and the commonwealth with respect to the maintenance and renewal of the street surface between the tracks. Undoubtedly the presence of railway tracks to some extent increases the expense of caring for the streets. The plan which we recommended to the Street Railway Investigation Commission last year was as follows:—

(1) Abolish the present "excise" tax.

(2) Require the companies to maintain in good repair, but not to renew, the street surface between their rails and tracks or, at their option, to reimburse the municipalities for the cost of such work.

(3) When this surface is renewed, or replaced with a different form of paving, require the companies to bear one-third of the labor cost, the municipality paying the remainder and the entire cost of all materials.

(6) *Rehabilitation.* — Direct acquisition of the street railway properties would enable the commonwealth to provide the capital necessary for rehabilitation and improvement, by the issue of State bonds. It would, of course, be proper to issue such bonds to cover the cost of additions and betterments. It would also be justifiable, we think, to spread the cost of extraordinary renewals necessitated by past neglect, beyond those which would normally be made from year to year, over a period of years by issuing serial bonds payable in annual installments.

(7) *Apportionment of Costs.* — Under the system proposed, a portion of the cost of street railway service would be met by the car rider, while a further portion, unless conditions radically change, would fall upon the community as a whole, being paid in the first instance at least out of the state treasury. This latter portion could be levied upon the cities and towns served by the railways, in proportion to trackage or population or both, following the plan adopted in the special Boston Elevated statute of last year, or it could be met directly by the commonwealth through an increase of certain special forms of taxation, such as the inheritance tax, the income tax, or the tax upon automobiles. This would be purely a question of public policy, and of obtaining the best average results for all concerned. Any general increase in real estate taxes would be met, no doubt, by an increase of rents or prices, and it might prove that the burden could be carried more easily and to greater public advantage in other ways. One great objection to the state's carrying the burden directly through some form of general taxation would be the fact that the properties taken over would probably not include those operated by the Boston Elevated Railway Company. This objection, however, would be met in large part if the present Boston Elevated statute were amended to provide for a return to something like the old rates of fare, any deficiency being paid out of the public treasury, for in such an event the railways in the Metropolitan district would be placed upon substantially the same basis of operation as those in the rest of the state.

The Public Burden Involved.

It is practically impossible to give any accurate estimate of the burden which might fall upon the public treasury, if the properties were so acquired, for the following important factors are uncertain: —

(1) No one can foretell the purchase price which it would be necessary for the commonwealth to pay. If what we conceive to be the usual rule in condemnation proceedings were followed by the courts — namely, to measure the damages by the amount in dollars which a purchaser, not under compulsion to buy, would part with to obtain the property and which a seller, not under compulsion to sell, would accept for it — the best that can be said is that the amount would probably be substantially less than the original investment. In view of the accrued depreciation, the deferred maintenance, the present market value of the securities, and the fact that certain lines in the state which were permitted to charge practically what they pleased have been abandoned and sold at scrap values, it is inconceivable that this would not be the case.

(2) No one can foretell what the revenues would be. While the plan contemplates a return to moderate fares, it provides for protection against jitney competition, and it is also probable that the lower fares would in themselves bring back gradually much of the traffic which has been lost as rates have been increased. An important factor would also be the return of the soldiers to the state. The commonwealth, moreover, would be at liberty at any time to place a larger share of the burden upon the car-riders, if such a course were deemed expedient.

(3) No one can foretell what the expenses would be. While it is not likely that wages will fall, the efficiency of labor may increase, since the quality has undoubtedly deteriorated during the shortage caused by war conditions. Prices of materials and supplies may, however, decrease, and this is especially true of coal, which is a big item in railway expense. It seems hardly probable that the present abnormal rates for water transportation will continue, and these have played a large part in the high cost of fuel. Expenditures of capital for rehabilitation and improvement are likely to bring reduction in expense, as hereinafter shown, and direct public responsibility for the roads should increase good-will, make better traffic regulations possible, and lessen injury and damage claims.

The results from operation of the railways in 1918, which differ widely from the results in 1917, are not now available. They can be secured, however, at a comparatively early date and it will then be possible for the Commission, by making due

allowance for further increases of expense in 1919, and proper depreciation requirements, to formulate estimates adjusted to various hypothetical conditions.

There are, as already indicated, certain grounds for optimism in regard to the future of the railways, especially if credit can be restored and an adequate supply of capital insured. The necessities of the situation have **Future Prospects.** stimulated invention, and during the past two or three years new ideas in regard to operation have been developing and gaining ground which seem likely to have an important influence upon the industry. For a long time the tendency was continually towards larger and heavier cars, and as their weight increased track was rebuilt and strengthened to accommodate them. The tendency is now in the opposite direction, towards lighter cars which may be operated by one man instead of two, and which will consume less power and cause less wear and tear upon the rails.

It is no doubt wise to withhold judgment in regard to the results which these one-man cars are likely to produce, until they have had more extensive tests under a greater variety of traffic conditions; but certainly the experience to date, if reports may be relied upon, has been full of promise. The new cars are equipped with automatic safety devices and it is said that they are easy to handle, that they stop and start as quickly as an automobile, and that they are liked by the public. It is also said that they are of even greater advantage in city districts than on country lines of lean traffic, for they can be used to provide much more frequent service without increase in expense, and frequency of service is the thing which attracts traffic in short-haul urban territory. They have been successful, it is said, not only in the South, but in the hills of Seattle, and in the severe weather of Canada. Clearly they represent a labor-saving, power-saving, track-saving device which deserves most serious consideration.

Another new idea which is gaining vogue is a different method of dealing with rush-hour traffic. The peak loads during the

morning and evening hours have always been the bane of street railway operation, for it has been necessary to invest in much equipment and to employ many men useful only during the periods at which this excess traffic occurs. The new method of dealing with this problem is to spread the traffic and lower the peaks by a so-called "staggering" of the hours at which business houses open and close. In other words, instead of having industries open and close at much the same time, and clog the arteries of travel with a sudden tide of humanity, the purpose is to persuade one group of industries to open at a certain hour, another group at a later hour, and so on, within reasonable limits, so that traffic may be spread and congestion diminished. It may prove that there are disadvantages in this plan which outweigh its benefits, but it seems to have promise as a means of preventing overcrowding and reducing expense of operation, and public management should make it easier to put it to the test.

A unified public management with an adequate supply of capital would also make it possible to improve power, shop and track conditions which are admittedly adding to the cost of operation on many of our railways. It is impossible to operate with real economy over poor track or with an inadequate power supply or with antiquated and inefficient shop and car house facilities. Such conditions do not prevail, by any means, on all the roads of Massachusetts, but they exist to such an extent that their improvement would have a marked effect in securing lower unit costs of operation. Unified management, furthermore, should make it feasible to bring about a standardization of equipment and supplies like that which so many industries in this country have found of great advantage. It is such standardization which has made it possible to produce Ford automobiles at low cost, and still pay high wages. If the rails and cars and other items which street railways use could be manufactured in a similar manner, without doubt their cost would be substantially reduced.

All this is merely suggestive of the possibilities of the future for street railways, if they can once be placed upon their feet and in a position to seize the opportunities which lie before them. We offer these suggestions, not as an exhaustive dis-

cussion of the subject, but merely to indicate that, in a time of prevailing pessimism, there are some reasons for a more hopeful view of the future, if the proper starting point can once be reached. As a matter of fact, it is within the public's own power to decrease the expense of street railway operation and increase revenues without raising rates, if it will only co-operate in traffic regulation, accident prevention and the collection of fares.

The Commission has not attempted to draft a specific bill providing either for a temporary scheme of public aid or for the more permanent plan of public acquisition of the railway properties, nor indeed to formulate such a plan with ^{Public} ~~any~~ ^{Opinion.} degree of definiteness.

We have endeavored merely to state the issue and furnish a starting point for discussion. The new policy which we have suggested is too far-reaching in its consequences and penetrates too far into fields, like taxation, of which we have little special knowledge, to justify us in urging it with confidence or in developing it at this stage with greater particularity. It needs above all things the consideration of many minds from many angles. Furthermore, evidence of public demand is essential. It is useless to undertake the difficult task of preparing definite and comprehensive legislation upon this subject, unless there is sound reason to believe that it will be in accord with public opinion and receive the whole-hearted support of the community. So strongly do we feel upon this point that we should not favor the adoption of any plan, no matter how great the public demand might seem to be, unless provision were made for final submission to a referendum vote. It is of vital importance that the people of the commonwealth should accept the new policy, if it is to be adopted, and become directly responsible for its success.

It is really a question of alternatives. If some such plan is not adopted, the alternative is to continue the present policy and attempt to cure street railway ills by the raising of fares. It is not impossible that, as the public becomes inured to this policy, it may produce better financial results than have yet been realized. Even if this proves to be the case, however, it will be a long time before the credit of the companies is good, and the higher fares, in our judgment, are certain to lessen the

value of the railways to the state, and to cause a gradual shifting of population which will be harmful in its results. On the other hand, if increased rates do not improve financial conditions, a period of receiverships and reorganizations will result, which may finally lead to better conditions, but only at the cost of abandoned lines and still worse service meanwhile. The people must choose between these alternatives. If they are to have good service, undoubtedly they must pay for it, in one form or another. Public ownership will at once insure a much-needed supply of capital and make lower fares feasible, and we know of no other way of accomplishing these results, other than a permanent guarantee of the outstanding securities of the companies, which would be open to the objections already pointed out. Nor do we think that public management is greatly to be feared. Whether there are other disadvantages which will outweigh the benefits received, we are not prepared at present to say.

It is unnecessary to state that the Commission is at the command of the General Court. We shall be only too glad to prepare, or to assist in preparing, any draft of legislation which the committees dealing with this matter may desire. We shall be equally glad to submit any statistics or other data in regard to street railway property, finances, or operation which it may be within our power to supply.

Various measures have been suggested for improving the financial condition of the street railway companies without any radical change in state policy — such as relief from the so-called “excise tax” or other forms of taxation. While some of these measures may prove of benefit, they are only palliatives and are not likely, in our judgment, to provide any real cure for the ills of the present situation. No doubt petitions for such legislation will be presented to the General Court and the Commission will be glad to advise with the committees in regard to them. One measure, however, which is likely to prove of advantage to both the public and the companies, if their credit can be improved, we deem it desirable to recommend specifically, since it is less likely to be introduced by others. This is the legislation to enlarge the powers of the companies to acquire private right of way through exercise of the power of eminent domain, which was submitted to the General Court

**Minor
Measures.**

by this Commission in its Fourth Annual Report. The reasons for this measure were fully stated in that report. (See pages xxii and xxiii.) A draft of a bill is herewith submitted.

In conclusion, it may be well to say a word in regard to the situation which prevails in other parts of the country. There seems to be a general feeling that Massachusetts ^{The Situation} is specially afflicted. As a matter of fact, similar ^{Elsewhere.} conditions prevail everywhere. The raising of fares did not begin so soon in other states as it did here, but the movement in this direction has gained great headway during the past year all over the United States. So desperate have the street railway owners considered the situation that they did everything in their power to persuade the federal government to seize and exercise the rate-making function in war time, in order that embarrassing provisions of local franchise grants might be overcome. There are certain companies elsewhere which have been able to cling to the old rates, just as there are one or two in Massachusetts, — notably the Union Street Railway Company of New Bedford, which by reason of good management in the past and present, and favorable location, has so far avoided raising the 5-cent fare, — but most of the railways have increased, or are now seeking to increase, their charges, and complaint in regard to service is very widespread.

In a certain sense our "anti stock-watering" laws have been a disadvantage. Many companies in other parts of the country were so wrecked in their early history by financial exploitation that they were forced to reorganize and start life over again, some 10 years ago. This happened, for example, in Chicago, Cleveland, Philadelphia and New York, and resulted in a rehabilitation of equipment which is helping them in operation at the present time. With their lower capitalization, our companies have been able to postpone the day of reckoning with depreciation a little longer. Circumstances differ to such a degree, also, that it is difficult to make fair comparisons. The Boston Elevated system, for example, now labors under clearly marked disadvantages, some of which are these: —

(1) First and foremost, it carries the load of a tremendous investment in subways and elevated lines. Only three other communities have similar

investments — New York, Chicago and Philadelphia. Until recently the rapid transit lines in New York have prospered, but now that the new subways are opened it seems probable that the city will shoulder a heavy deficit unless fares are increased. Furthermore, high speed operation beyond what is practicable in our shorter subways makes expense relatively less. No transfers are given to or from surface lines. For every ride, no matter how short, the subway or elevated lines receive a full fare. This is true also in Chicago, where there are no subways and where the fare on the elevated lines has recently gone to 6 cents. In Philadelphia the investment in rapid transit lines is much smaller than in Boston, although the population is larger, and in general there is an extra charge for transfers to and from surface lines.

(2) The average ride per passenger is probably longer than in most other communities, not only because the area covered by a single fare is very large, but also because the lay-out of the city and the system makes the percentage of short-haul riding low.

(3) Narrow and crooked streets increase expense of operation.

(4) Coal, which is a big item of expense, costs substantially more in New England than in most other parts of the country.

(5) The expense is increased by the fact that rolling stock and tracks have not been kept up to date or in good repair.

In the case of the properties in the remainder of the state, there is no doubt that more country lines of low earnings and poor construction have been built in Massachusetts than in other parts of the country, and the consolidation of these lines with the city systems has lowered the average earning power. Quite commonly elsewhere, the interurban and city lines have separate corporate organizations, and have been brought under common management, if at all, through the medium of holding companies. Unified operation with more prosperous lighting properties has also helped many street railway companies in other states weather the storm, and they have been helped by proximity to the coal fields and by wide streets and other favorable operating conditions. In general, however, it cannot be questioned that the street railway situation is bad all over the country, and there is little basis for the common belief that Massachusetts is specially afflicted.

BOSTON ELEVATED RAILWAY COMPANY.

By the provisions of chapter 159 of the Special Acts of 1918, the management of the Boston Elevated Railway Company was placed in the hands of a board of public trustees appointed

by the governor, and the company was, in general, removed from the jurisdiction of this Commission, so far as rates and service are concerned. The plan of public management under publicly appointed trustees was suggested by this Commission, but the statute in its final form did not meet in all respects with our approval. We have no doubt, however, that the trustees will be able, as a result of their experience, to recommend suitable amendments.

Since the adoption of the new plan of management, complaint in regard to service has continued. In justice to the trustees we think it well to point out that one reason why this Commission urged public management was the belief that under war conditions no speedy improvement in accommodations could be expected, and that service was, in fact, likely to become worse rather than better. Under these circumstances we felt that there would be less unrest if the administration of affairs were placed directly in the hands of public officers appointed by the governor. This is shown by the following extract from our report:—

Certain unusual factors in the situation have an importance which can hardly be overestimated. General conditions are extraordinary. The country is at war and a great portion of its wealth and productive power is being absorbed by our army and navy and in the support of the military forces and population of our allies. More and more the nation will be called upon to sacrifice and do without things which it would otherwise have a right to expect. Few now realize, indeed, the extent to which this is likely to become necessary.

This applies to transportation as well as to everything else. Normal activity in improving service and facilities cannot be expected. At best, private capital can be secured with great difficulty and at high cost, and the same is true of labor and materials. Steel and copper are being used principally for war purposes. Many of the plants which manufacture cars are now building aeroplanes and gun carriages. War work is exhausting the supply of skilled mechanics, and street railway companies even now are finding it hard to secure motormen, conductors and unskilled labor. Transportation improvement must be concentrated primarily upon the means of moving quickly munitions, fuel, food and essential raw materials.

In such a situation mutual trust and unity of purpose are essential, and the government, as the one body representing all the people, becomes the dominant factor. In the present instance, war conditions are bound to cause no little public discomfort and dissatisfaction, and already there

is widespread feeling over the poor service which is being furnished. It is also true that, whatever action the General Court may take, the effect upon the service will be gradual. Under such circumstances nothing is more desirable than to create confidence in the administration of affairs and to remove all basis for the fear that private interests, for some purpose of their own, have failed to do everything that can be done to improve the situation.

In another part of the report it was definitely stated that "it may be that under present conditions, shortage of labor and materials will prevent any material improvement immediately in the transportation situation, no matter what is done." This fear has been realized and the trustees have been unable to provide good service. They have suffered, however, from conditions beyond their control, which have had a similar effect upon all the railways of the state. It has been impossible to secure an adequate supply of efficient labor, and deliveries of equipment and materials have been badly delayed. The people will be short-sighted and unfair if they charge against public management these adverse conditions which have caused similar shortcomings in private management.

The very large increase in wages, and the fact that the trustees are making a far greater provision for depreciation than ever the private management did in the past, have made it necessary to raise fares to a higher level than was anticipated, and it may be that the General Court, if it had been able to forecast conditions, would have placed a heavier temporary burden upon the stockholders, although they were given only a very moderate return. However, the increases in fares which the trustees have made are not in excess of those which companies under private management have sought. Indeed the increases upon the Bay State street railway have been decidedly higher. As yet there is, we believe, no reason for a claim that public management has been a failure.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

Commissioners.

DEPARTMENT REPORTS.

RATE AND TARIFF DEPARTMENT.

The changes in passenger fares and freight rates during the year 1918 have been much greater than in any year since the formation of the Commission, although the new tariffs filed have numbered but 1,662.

The United States Railroad Administration, which assumed charge of nearly all lines in the country on January 1, 1918, under a proclamation of the President of the United States dated December 28, 1917, issued a general order making marked increases in passenger fares on June 10, 1918, and freight rates on June 25, 1918.

PASSENGER FARES.

The general basis of passenger fares was fixed at 3 cents a mile, in place of the former 2-cent rate which maintained within 15 miles of Boston and the $2\frac{1}{2}$ cents a mile elsewhere in the state. The mileage tickets formerly sold at the rate of $2\frac{1}{2}$ cents per mile were discontinued and in their stead were provided so-called scrip books sold at the regular single ticket rates, but enabling the checking of baggage without first going to the ticket office. The 8 per cent war tax is added to the price of the scrip books when purchased, so that traveling men have no annoyance in figuring taxes for each individual journey. As these scrip books, however, include a war tax which is not required on trips of less than 12 miles, an unnecessary expense is involved if they are used for short trips.

Some exceptions have been made to the ruling rates given above, so that soldiers and sailors returning home after discharge from service can procure tickets at two-thirds of the regular rate, while soldiers, sailors, nurses and enlisted women of the army, navy and marine corps on furlough can procure transportation on the basis of one-third the regular fare.

Tariffs have also been prepared to take effect January 1, 1919, providing for the transportation of clergymen under certain restrictions at one-half the regular fare.

The season tickets, 12 and 25-ride suburban and other similar commutation tickets and monthly season tickets, were all increased a flat 10 per cent. The half rate students' monthly ticket which has been in force for years has been continued, up to the present time, with a 10 per cent increase.

In addition to these changes, there was introduced an additional charge for the privilege of using parlor and sleeping cars, over and above the actual price for seat or berth, this figuring about one-half a cent a mile and continuing in force until December 1, 1918, when it was discontinued.

There are some indications that still further changes in commutation tickets of the various kinds may be made in the near future, provided a satisfactory uniform plan applicable to the entire country can be formulated.

FREIGHT RATES.

A description of the increase in freight rates is quite complicated, and to understand the changes fully it must be followed down from the basis promulgated by Judge Prouty of the Interstate Commerce Commission, sitting jointly with the New England Commissioners in connection with Boston and Maine affairs in 1913.

The resulting tariffs were made effective by the Boston & Maine Railroad on April 1, 1914, and the basis was later adopted by the Boston & Albany on May 1, 1914, and by the New York, New Haven & Hartford in December of the same year, thus covering substantially all the steam mileage of the state.

The Interstate Commerce Commission, by decision on June 27, 1917, granted the petition of eastern carriers for a 15 per cent increase in class rates to meet added cost of operation, the tariffs thus authorized going into effect upon the Boston & Maine and the New York, New Haven & Hartford lines in August, 1917, followed by the Boston & Albany in November, 1917. This was the uniform basis at the time the New England roads petitioned the Interstate Commerce Commission for a

further advance, which was authorized in April, 1918, in I. C. C. Case No. 9953, but the application of which, up to December, 1918, has been accomplished only by the New York, New Haven & Hartford Railroad, which combined it with the increase of 25 per cent made by the United States Railroad Administration.

Briefly stated, the original first class rate for distances of less than 5 miles up to August, 1917, was 10 cents for 100 pounds. The first increase of 15 per cent raised this to 11½ cents. The basis authorized in I. C. C. Case No. 9953 substituted for this a rate of 20½ cents, which was further raised 25 per cent by Order No. 28 of the United States Railroad Administration, raising the figure to 25½ cents, which is the present minimum upon the New York, New Haven & Hartford Railroad for 100 pounds of first class freight moving a distance of not over 5 miles.

This increase of over 150 per cent in the short distance rates in effect up to August 1, 1917, has been the cause of complaint from shippers operating on a close margin. The basis of rates in effect upon the New York, New Haven & Hartford railroad since June 25, 1918, is to be applied to the Boston & Albany and Boston & Maine as soon as authority for certain resulting Fourth Section violations is issued. These tariffs are expected at any time and will place Massachusetts business upon a uniform basis, whether handled locally or jointly between roads formerly operated independently.

In May, 1918, certain commodity rates, in accordance with decision in I. C. C. No. 57 (*Ex Parte*), were increased 15 per cent and on June 25, 1918, under United States Railroad Administration Order No. 28, they were further increased 25 per cent.

The natural desire of the Railroad Administration to establish fares and freights upon a consistent, and as far as feasible, a uniform basis on all the controlled roads of the country involves grave possibilities for Massachusetts.

The low rate suburban fares, half-price scholars' tickets, as well as the system of freight rates formerly based on local conditions, may be seriously altered if a basis suitable for a large part of the whole country is applied.

The Official Freight Classification covers about 15,000 differ-

ent items and differs widely in many cases from the Western Classification, as used beyond the Mississippi River, and such study as has been made so far indicates a decided tendency to further increases resulting from the possible substitution of the Western for the Official Classification, unless there is an adequate reduction in the corresponding rate tables. Here again complications appear, for the proportion of increase in rates for added distance in the west, appears greatly in excess of that formerly applied in New England territory and to which its competitive interests have been adjusted. Careful study is now being made to prevent, so far as possible, unwarranted increases which may occur accidentally if the situation is not carefully studied in the light of local conditions for the information of the responsible authorities at Washington.

EXPRESS SERVICE.

On July 1, 1918, all the large railroad express lines being under government control, the independent organizations were combined in the interest of economy and efficiency, it being obviously cheaper to operate if one team passing through a district can be used to collect and deliver for all the companies. As the rates made by the Interstate Commerce Commission heretofore have applied to all lines, no competitive advantages were lost by this arrangement. The title of the new operating company is the American Railway Express Company.

On July 15, 1918, it made effective tariffs previously authorized by the Interstate Commerce Commission on the showing of the independent companies before the consolidation. The increases allowed were 10 per cent, which meant that the shortest movement in the State of Massachusetts for a shipment of 100 pounds was increased from 50 cents to 55 cents, and the longest possible haul in the state from \$1.00 to \$1.10 per 100 pounds, with consistent lower charges in all cases for shipments of less weight.

Tariffs recently authorized to become effective January 1, 1919, will further increase the rates, so that the minimum haul for 100 pounds will be 71 cents, instead of 50 cents as at the first of last January, and the longest haul will be increased to \$1.26, or practically 25 per cent during the year.

The consolidation of express interests not only promises to improve service but also to decrease operating cost. It offers a distinct improvement in avoiding all delay in listing and receipting for individual shipments which formerly passed from one carrier to another, thus saving time and avoiding needless expense. As soon as normal conditions return there should be a noticeable improvement in the settlement of claims, for the time formerly required to locate the individual carrier responsible for loss or damage will not be required and it will only be necessary to verify consignees' statement of loss or damage and establish the proper amount in order to authorize payment.

Another and by no means the least improvement in service will result from the consolidation of shipments between certain points in through cars, the possibility of loss being manifestly much less under this arrangement than where freight is forwarded by several competing routes in broken lots and repeatedly transferred in transit. The most direct route under the new arrangement will naturally receive all business for which it is best fitted.

STREET RAILWAY FARES.

During the year there have been 141 passenger and 46 freight trolley tariffs filed, all of which were either to secure additional revenue by increased unit rate, by shortening or introducing additional zones, or by discontinuance of business on lines which under existing conditions involve an operating loss.

Experience has shown that while fares may be raised to meet increased expenses, it is an unsettled question how far the public will continue to ride at the increased rates. The abnormal conditions which have lately existed in many neighborhoods have gone far to make the problem, which is itself complicated, even more difficult.

ACCOUNTING DEPARTMENT.

A portion of the time of this department has been given to critically analyzing the annual reports of public service corporations for the purpose of enforcing uniform accounting and securing accurate statements of financial and physical condi-

tions, and to the correction of the various errors and omissions found. It is also the duty of the department to compile the statistical information found in the annual report.

There are now under the jurisdiction of the Commission one hundred and eighty-eight companies engaged in some form of public utility operation.

Investigations were made relative to the expenditures on account of additions and betterments, in which cases the vouchers and contracts covering the expenditures were examined and the physical property inspected and appraised.

During the year applications were received from the Union and West End street railway companies, the New York, New Haven & Hartford Railroad Company and the Southern New England Railroad Corporation for authority to issue capital stock or bonds. The expenditures by these companies on account of additions and betterments were verified and reports made to the Commission. Reports were also made relative to securities which had been issued by the Boston Elevated Railway Company and the Plymouth & Sandwich Street Railway Company under previous authorizations. The department also checked the expenditures made by the Bay State Street Railway Company, representing additions and betterments since the computation of investment value as of November 1, 1914, which had been duly approved by the Commission.

Investigations and reports were made in connection with the rate cases of the following companies: Boston, Revere Beach & Lynn Railroad Company, Northampton, Fitchburg & Leominster, Massachusetts Northeastern, and the Northern Massachusetts street railway companies.

Much statistical information has been compiled relative to operating conditions, which is of value to the Commission and the general public.

INSPECTION DEPARTMENT.

The annual and special inspections of steam railroads, private railroads and street railways for the year ended June 30, 1918, were made under the direction of George W. Bishop, chief of the inspection department, representing the Commission. The

results obtained from these examinations are shown in this report.

The conditions of steam railroads and street railways show no improvement over conditions one year ago, which at that time were far from being satisfactory.

The members of this department, during the year, devoted a very large amount of time to the adjustment of complaints and to securing data for the Commission with reference to special investigations, involving valuations or concerning physical conditions and present and future needs of railroads and street railways. Reports relative to the investigation of accidents and unsatisfactory conditions found upon railroads and street railways, which have been specifically called to the attention of the Commission, will be found in full in the appendix to the Commission's report.

The number of complaints received in connection with railroad operation was 153; in connection with street railway operation, 218. These complaints were investigated and adjusted by this department, thus obviating the necessity of public hearings or conferences and the issue of orders or memoranda by the Commission.

The number of inquests in cases of death by accident attended by inspectors and assistant inspectors was 399.

Reports made by the inspection department to the Commission concerning certain accidents and the physical condition of certain railroad and street railway properties will be found in the appendix to the Commission's report.

RAILROADS.

Locomotives.

The number of locomotive inspections made at various times was 3,158. In 2,687 inspections no defects were found. In 471 cases locomotives were found defective because of steam leaking to obscure the vision of enginemen, or were found to have defective boilers, wheels, spark arresters or ash pans. These defects were called to the attention of the proper officials and remedied. The number of special examinations of spark arresters and ash pans was 2,347.

During the year 70 new locomotives were put into operation in Massachusetts, as follows: Boston & Albany railroad, 18 switching engines; Boston & Maine railroad, two electric engines; New York, New Haven & Hartford railroad, 50 Santa Fé type freight engines.

Frog and Switch Blocking.

The number of pieces of foot blocking found to be missing or defective and called to the attention of proper officials and remedied during the year, was 2,217.

Bridge Guards.

The number of bridge guards found defective and called to the attention of proper officials and remedied during the year was 1,583.

Steam Passenger Train Equipment.

During the year, 11,139 passenger coach inspections were made and in 10,345 of these no defects were found. The number of coaches inspected and found defective with reference to wheels, brakes, lighting, car seat frames, missing emergency tools, or because of dirty conditions, was 794.

During the year the New York, New Haven & Hartford Railroad Company retired 14 cars and put into service 100 new cars; the Boston & Albany Railroad retired 17 cars and put into service 6 new cars; the Boston & Maine Railroad retired 36 cars and put into service 7 new cars.

Steam Freight Train Equipment.

The number of freight cars inspected with no defects being found was 6,105; found defective, 94. Caboose cars inspected with no defects found, 348; found defective, 20. Milk cars inspected, 74, of which none were found defective.

Passenger Stations.

The number of inspections of passenger stations, made at various times, where stations were found to be in good or fair condition was 3,867. The number found defective with respect to platforms, lavatories, or because of untidy conditions, and called to the attention of proper officials and remedied, was 120.

Accidents.

The number of fatal accidents to individuals on steam railroads investigated was 271. The number of serious personal injuries investigated was 166. The number of other accidents investigated, such as derailments and collisions, was 147.

STREET RAILWAYS.

Certificates for Operation.

The number of inspections of new street railway tracks made as a preliminary to issuing certificates of operation was 57.

Street Railway Equipment.

During the year 4,720 car inspections were made and in 3,221 cases no defects were found; the number of cars found defective with reference to wheels, brakes, lighting, car seat frames or through untidy conditions, was 1,499.

Accidents.

The number of fatal accidents to individuals investigated was 136. The number of accidents due to broken or loose wheels, broken journals and axles reported was 291; miscellaneous accidents investigated, such as collisions, personal injuries and accidents caused by faulty operation, 670; accidents caused by spread rails, broken rails, defective special work, poor surface and alignment of track, 854.

The records of the office show that accidents caused by persons coming in contact with either fenders or wheelguards, or both, were: fatal accidents, 8; serious accidents, 10; neither fatal nor serious, 145. Lifting jacks were used five times to extricate persons from underneath cars. In one instance the time consumed was thirty minutes; in another, ten minutes; and in the other three instances, seven minutes each.

ENGINEERING DEPARTMENT.

During the year there has been no change in the personnel of the department.

Investigations of expenditures have been made on account of additions and betterments charged against issues of capital

stock previously authorized by the Commission, or for which authority to issue capital stock or bonds was desired by the Boston & Albany and the New York, New Haven & Hartford railroad companies, the Southern New England Railway Corporation, the Boston Elevated Railway Company, the West End, Plymouth & Sandwich, Union, Massachusetts Northeastern, Fitchburg & Leominster, and Northampton street railway companies.

The department has made examinations and valuations of the property of the Boston, Revere Beach & Lynn Railroad Company and of the Interstate Consolidated Street Railway Company.

In connection with petitions for fare increases on certain street railways, many maps and diagrams have been prepared, and in connection with war industries, studies and reports upon traffic matters at Fore River, Hanover and Winchendon have been made.

Copies of maps, and cost data prepared by the railroads for the valuation by the Interstate Commerce Commission have been filed, and the valuation of the railroad lands in and around the Boston terminals is being studied.

In addition to the above, studies and reports on minor matters have been made, and, under authority of chapter 527, Acts of 1914, about five days have been spent by the engineer in connection with the elimination of grade crossings for the department of the Attorney-General.

BRIDGES.

During the past year Prof. Lewis E. Moore, Bridge and Signal Engineer of the Commission, was engaged in military service with the First United States Army in France, but resumed his position with the Commission at the beginning of the present year.

During his absence the work has been carried on by the other members of the department, with the occasional employment of Professor James M. Barker of the Massachusetts Institute of Technology as consulting bridge engineer.

The work of the consulting bridge engineer has covered the usual annual inspection trips, the approval of plans for new bridge construction, and reports on particular bridges where requested

by the Commission. Most of these reports were on bridges of the Boston and Maine Railroad. It had been felt by the Commission that some investigation of these bridges was desirable, as in general they have not been kept up to the best standards. As a result of these investigations, the Railroad has adopted what appear to be satisfactory programs of reconstruction in a number of important cases.

Railroad bridges to the number of 241 have been inspected, several of which have been thoroughly investigated, including the jack-knife draw bridges in the vicinity of Boston, and thirteen street railway bridges have received special examination.

The tables which follow show the statistics of the bridges upon the railroads in the Commonwealth as of December 31, 1917.

Table I gives the total number of bridges of each type on each of the railroads.

Table II gives the approximate total length of bridges of stone, wood and metal on each road.

Table III gives a summary of the bridge work done on the railroads in the Commonwealth during the year ending December 31, 1917.

TABLE I. — Number and Description of Railroad Bridge Spans in Massachusetts, December 31, 1917.

RAILROADS.	Pile Bridges.	Wooden Trestles.	Wooden Stringers.	Wooden Stringers.	Braced or Trussed Stringers.	Wooden or Combination Trusses.	Stone, Concrete, or Brick Arches.	I-Beams.	Plate Girders.	Metal Riveted Trusses.	Metal Pin-connected Trusses.	Ralls.	Pin-connected Metal Swing Bridges.	Metal Folding, Rolling Lift, Bascule or Jack-knife Draws.	Frat, Howe, or other Wooden Jack-knife Draws.	Plate Girder Swing Bridges.	Total Spans Stone Bridges.	Total Wooden and Combination Bridges (Fixed Spans).	Total Metal Bridges (Fixed Spans).	Total Movable Bridges.	(Grand Totals.	Total Length of Pile and Trestle Bridging (Approximate).
Boston & Albany,	5	2	1	1	1	1	49	53	110	2	1	1	1	4	1	1	49	7	166	4	226	2,194
Boston & Maine,	60	7	45	1	1	2	87	71	229	24	12	1	1	8	2	1	87	116	246	14	563	13,945
Boston, Revere Beach & Lynn,	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	1	2	7	4,835
Central Vermont,	5	2	7	1	1	1	1	11	16	9	7	1	1	1	1	1	1	14	44	1	53	504
New York, New Haven & Hartford,	60	29	53	1	2	2	148	88	633	24	17	24	1	6	1	1	148	150	796	7	1,101	10,444
Totals,	125	40	110	2	6	223	264	223	968	70	36	35	2	19	3	2	264	202	1,233	27	1,965	36,972

TABLE II. — *Length of Bridging of Wood, Stone and Metal, December 31, 1917.*

RAILROADS.	WOODEN SPANS.		STONE OR CONCRETE SPANS.		METAL SPANS.	
	Num-ber.	Total Length (Feet).	Num-ber.	Total Length (Feet).	Num-ber.	Total Length (Feet).
Boston & Albany,	7	2,194	49	1,589	170	13,014
Boston & Maine,	120	20,814	87	2,183	356	23,402
Boston, Revere Beach & Lynn,	5	4,385	-	-	2	140
Central Vermont,	14	701	-	-	44	3,001
N. Y., N. H. & Hartford,	180	11,699	148	3,830	803	29,802
Totals,	296	40,293	284	7,802	1,375	74,359

TABLE III. — *Bridge Work Done in the Year ending December 31, 1917.*

RAILROADS.	NEW BRIDGES BUILT.			BRIDGES REBUILT OR REPLACED.			BRIDGES STRENGTHENED OR EXTENSIVELY REPAIRED.		
	Wood.	Stone or Concrete.	Metal.	Wood.	Stone or Concrete.	Metal.	Wood.	Stone or Concrete.	Metal.
Boston & Albany,	-	-	-	1	-	11	-	-	-
Boston & Maine,	-	-	-	3	1	9	-	2	13
Boston, Revere Beach & Lynn,	-	-	-	-	-	-	-	-	-
Central Vermont,	-	-	-	-	-	-	-	-	-
N. Y., N. H. & Hartford,	-	-	-	5	-	12	5	3	3
Totals,	-	-	-	9	1	32	5	5	16

SIGNAL DEPARTMENT.

During the year ending June 30, 1918, the following work has been done by the signal department.

The following statement gives the number of signal inspections which have been made:—

Interlocking towers,	134
Signals,	58

Nineteen recommendations of changes in signals were made. Sixty-three plans for interlocking towers and for signal changes

were examined and checked. The operation of signals was observed from locomotives both by day and by night. The signal conditions involved in eight collisions and seven derailments were investigated. Twelve failures were found and remedied. Two automatic stops were investigated. Approval of proposed changes or new construction was recommended in nineteen cases and these changes were adopted before the plans were approved.

Extensive additions to the signal systems during the past year were as follows:—

Automatic signals between Braintree and Greenbush on the New York, New Haven & Hartford railroad, which replaced the time interval system.

A new lighting system has been installed to light the signals through the Back Bay Cut of the New York, New Haven & Hartford railroad.

Telegraph order signals have been installed at several stations on the Boston & Albany railroad and are gradually being extended over the system.

All signals between Charlton and Palmer on the Boston & Albany railroad have had storage batteries added to replace the primary batteries.

In addition to the above, the following has been done jointly with other employees of the Commission:—

Valuation of the Swansea & Seekonk street railway.

Transportation of employees to and from Fore River.

TELEPHONE AND TELEGRAPH DEPARTMENT.

The following figures show the work of the telephone inspectors of the department for the year:—

Complaints,	993
Inspections at subscribers' stations by the inspectors of the department,	1,325
Service tests by inspectors and from the department,	2,650
Visits to exchanges by inspectors, other than on complaints,	109

On a majority of complaints several visits were necessary.

While appreciating that the war business had added substantially to the company's traffic and plant "load," it seemed desirable to continue a reasonable, healthy inspection service in

order that those responsible for the maintenance of telephone traffic might be helped in their efforts to maintain an orderly service standard.

In this connection we are gratified to be able to state that any important changes in traffic or plant conditions which seemed to our inspectors to be necessary were at once taken care of by the officials assigned by the telephone company to attend to Commission matters.

During the several weeks of the epidemic, systematic inspections and service tests were abandoned, owing to the greatly reduced forces of the company, particularly in the traffic department.

In the matter of conservation of war material, as applied to new installations and extensions of existing service, the department has co-operated in every way with the companies. Of the many cases involving that question which reached the department, not a few were denied as unnecessary.

With the heavy increased use of telephone service, the department deems it absolutely necessary to again call the attention of subscribers having party-line service in the larger exchanges, and particularly in the Metropolitan district, to their great responsibility, not only to other subscribers who may be on their lines but to the subscribing community as a whole. That responsibility calls for a reasonable use of such service in length of conversations, in order that all subscribers desiring to use the service may have an opportunity to do so. The Massachusetts Public Service Commission, four years ago, was the pioneer in the United States in asking that telephone talks be limited to five minutes on party lines, and certainly not beyond that time after another subscriber had indicated a desire to use the line. The results following that request were very gratifying. Telephone "visits" in the larger exchanges were noticeably shorter and amity between neighbors on the same line increased.

War traffic, however, has changed that condition, but the department is co-operating with the telephone company to the fullest extent in eliminating unfair use of service. For a modest woman who courteously asks to be allowed to use the line after some one has had it one hour and twenty-three minutes to

be invited to go where ice is scarce is certainly not fair treatment, and it is quite safe to say that in the future there will be a much larger percentage than ever before of party-line subscribers who, failing to respond to reasonable requests to divide the time with other subscribers, will suddenly find themselves without service or compelled to take a special line. The department asks the co-operation of every fair-minded subscriber in this work from now on.

While it cannot be said that traffic conditions in the different exchanges are yet normal, it is quite clear that the percentage of operating errors is all out of proportion to other conditions.

As far as it is possible to do so, with a very limited inspection force, this phase of the service is to be made the subject of a special study by the department early in the coming year.

One of the most vital things to-day entering into the prosecution of any form of business is telephone service, and the great business community is entitled to protection at all times. There ought always to be a reasonable margin of safety in telephone traffic standards. Telephone service is the most sensitive of all public services, and, when once it passes below the danger point, it is very difficult to get back to a proper standard. Even before war conditions the service was near the danger point. Now that we are quickly returning to peace conditions, the appointment of two additional inspectors is strongly urged, in order that we may, to that extent, be able to put our finger on the weak spots and compel those responsible for telephone traffic to recognize the fact that there is that danger line below which they must not go. The present size of our inspection force permits of comparatively little work along these lines, because of routine complaint matters and things incidental thereto.

A readjustment of the rates within the Metropolitan district is very much overdue. On July 1, 1915, the New York Telephone Company was required to install an all-measured service covering the entire city of New York, including Brooklyn, and to-day that municipality enjoys the simplest form of rate schedule in existence anywhere in the world. In Boston and suburban districts we have had for many years a most complicated schedule of rates. For instance, the central business section of Boston is segregated as a separate telephone district in

which there is an unlimited service carrying a rate of \$125, covering 83,000 subscribers. The department has figures showing that some subscribers to that form of service are getting service at a rate as low as two-tenths of a cent per call. This is but an illustration of the peculiarities of the schedule. The department ought to have a larger appropriation, one sufficient to make a proper engineering study of the rates in effect all over the state, and those within the Metropolitan district at all events, with a view to the establishment of a simpler and a more equitable rate schedule, under which the larger users will be paying their proportionate share of the expense of producing service. It is possible that this could be brought about by the adoption of a schedule along the lines followed in New York.

The question of district service is also important. Subscribers in cities and towns within the Metropolitan district, twenty to thirty miles apart, are permitted to have unlimited service with each other, and with 40 or 50 other places, and the same right is denied to communities only a few miles apart in other sections of the state. This does not seem just, and such service should either be discontinued or thrown open to all communities. The coming year would seem to be the time to clean up the larger irregularities and inequities of rates and service instead of waiting until we have entered upon a period of great industrial activity.

The work of the department concerning telegraph matters is at no time of large volume, owing to the fact that telegraph traffic is largely of an interstate character.

Out of the large number of complaints on telephone matters, comparatively few have required the attention of the full Commission. The department has continued the policy of holding quasi-public hearings or conferences at a number of places from which petitions or serious complaints have been received, and in practically all such cases some adjustment of the matter has been reached satisfactory to all parties without public hearings by the Commission.

Among other changes which the New England Telephone company has been making has been the elimination of so-called district service in a number of communities where such service has existed. Several such districts have been eliminated and several others are now the subject of conferences between the

communities interested, the telephone companies and the representatives of this department.

In the matter of control and operation of telegraph and telephone service by the Post Office Department of the United States, the Commission from the start offered every co-operation to the Postmaster-General and his committees, and the experience of the department organization and the information in its possession have at all times been placed at the disposal of the Washington authorities.

The personnel of the department was changed somewhat during the year by the departure of Mr. James M. Cushing, the oldest inspector in point of service, into the military service. Mr. Patrick J. Drislane of Boston, who has had many years' experience in telephone work, was appointed as temporary inspector to fill the vacancy.

In this connection, it is only fair to mention the splendid co-operation given the department by representatives of the New England Telephone company, and particularly Mr. Clarence G. McDavitt, the executive assistant, who handles all Commission matters for the company and with whom the department deals directly. Because of his co-operation and willingness to eliminate the usual formalities and red tape, we have been enabled to dispose of hundreds of complaints in an informal manner with entire satisfaction to all parties at interest.

DECISION ON HOTEL TELEPHONE RATES.

The most important telephone decision of the year by the Commission was that concerning rates for public telephone service at hotels, which appears in full in the appendix.

This decision, in effect, required the telephone company to discontinue furnishing telephone service to hotels except upon condition that such service should not be resold by the hotels at a price higher than that charged by the telephone company for the same service at public stations.

The decision was appealed by the counsel for the Hotel Men's Association, but, later, following an order by the Postmaster-General, in effect confirming the order of the Massachusetts Commission, the hotels decided to obey the order and are now charging regular schedule rates for local service.

RAILROAD STATISTICS.

Annual returns for the year ending December 31, 1917, have been received from thirty-six railroad corporations, also a return from the receiver of the Boston & Maine Railroad. Returns have also been received from a canal company and a sleeping car company.

There was returned the past year a net decrease of 7.97 miles of railroad line located in this Commonwealth, caused by additions and remeasurements. There was a decrease of .01 of a mile of second main track, an increase of 3.21 miles of third main track and 41.66 miles of side track.

There are now in Massachusetts 2,133.50 miles of main and branch railroad line. The total length of railroad track within the Commonwealth, including second, third and fourth main track and side track, is 5,005.05 miles.

STATISTICS.

The following compilations of statistics are from the returns of the several railroad companies to the Commission for the year ending December 31, 1917.

The 4.20 miles of road owned by the Hartford & Connecticut Western, located in this Commonwealth and operated by the Central New England, are not included in the following tables and statistics.

The following table gives the length of railroad line and track in this Commonwealth on December 31, 1917, as compared with the previous year: —

Railroad Mileage in Massachusetts, December 31, 1916 and 1917.

RAILROAD MILEAGE.	1916.	1917.	Increase.
	Miles.	Miles.	Miles.
Length of main and branch lines,	2,141.47	2,133.50	7.97*
Length of second track,	947.55	947.54	.01*
Length of third track,	78.62	81.83	3.21
Length of fourth track,	45.96	45.96	-
Length of side track,	1,754.56	1,796.23	41.66
Total reckoned as single track,	4,968.16	5,008.06	39.89

* Decrease.

Mileage Owned.

The total length of railroad line *owned* by the Massachusetts companies *in* and *out* of the Commonwealth is 4,263.74¹ miles; and the total length of railroad track so owned is 9,198.36² miles. The miles of main and branch line, of second, third and fourth main track, and of side track, owned December 31, 1917, and the increase over the previous year is stated in the following table: —

Mileage Owned by Reporting Companies, December 31, 1916 and 1917.

MILEAGE OWNED.	1916.	1917.	Increase.
	Miles.	Miles.	Miles.
Length of main and branch lines,	4,258.97 ¹	4,263.74 ¹	4.77
Length of second track,	1,573.10	1,573.11	.01
Length of third track,	179.57	186.06	6.51
Length of fourth track,	116.28	120.26 ³	3.98
Length of side track,	2,989.54 ⁴	3,055.17 ⁴	65.63
Total reckoned as single track,	9,117.46 ²	9,198.36 ²	80.90

¹ Includes 18.09 miles electric street railway.² Includes 19.03 miles electric street railway track.³ Includes .61 of a mile of fifth track and .54 of a mile of sixth track.⁴ Includes .94 of a mile of electric street railway.

Mileage Operated.

The length of railroad line *operated* by the Massachusetts companies, *within* and *without* the Commonwealth, including roads operated under lease or contract as well as roads owned, is 5,177.61¹ miles; and the total length of track so operated is 10,687.63² miles, — as shown in detail, with the increase over the previous year, in the next table: —

Mileage Operated by Reporting Companies December 31, 1916 and 1917.

MILEAGE OPERATED.	1916.	1917.	Increase.
	Miles.	Miles.	Miles.
Length of main and branch lines,	5,169.15 ¹	5,177.61 ¹	8.46
Length of second track,	1,640.88	1,650.15	9.27
Length of third track,	203.79	210.30	6.51 ¹
Length of fourth track,	139.42	142.25	2.83
Length of fifth track,	9.66	10.27	.61
Length of sixth track,	9.63	10.17	.54
Length of side track,	3,421.66 ²	3,486.88 ²	65.22
Total reckoned as single track,	10,594.19 ²	10,687.63 ²	93.44

¹ Includes 46.80 miles electric street railway.

² Includes 49.54 miles electric street railway track.

³ Includes 2.74 miles electric street railway.

Miles of Railroads Owned and Operated, December 31, 1917.

RAILROAD COMPANIES.	Length of Line.	Second Track.	Third Track.	Fourth Track.	Side Track.	Total.
Attleborough Branch,	3.72	—	—	—	1.42	5.14
Boston & Albany,	393.97	218.83	86.00	24.84	413.57	1,136.30
Boston & Maine,	2,305.41	591.14	4.20	1.98	1,875.54	4,278.27
Boston, Revere Beach & Lynn,	13.20	13.20	—	—	4.10	30.50
Central Vermont,	411.20	6.20	—	—	159.22	576.62
Grafton & Upton,	18.10	—	—	—	3.79	21.89
Hoosac Tunnel & Wilmington,	24.00	—	—	—	5.06	29.06
Nantucket,	9.12	—	—	—	.15	9.27
New York, New Haven & Hartford,	1,996.59	819.95	120.01	135.87 ¹	1,522.51	4,594.93
Union Freight,	2.30	.83	—	—	2.52	5.65
Total,	5,177.61	1,650.15	210.30	162.69	3,486.88	10,687.63

¹ Includes 10.37 miles of fifth and 10.17 miles of sixth track.

COMPARATIVE GENERAL BALANCE SHEET.

In any examination for purposes of comparison between the report here following and reports prior to 1914, it must be distinctly understood that by reason of the adoption by the Commission, under authority of law, of the form of return prescribed by the Interstate Commerce Commission, the return now adopted differs substantially in principle from the return formerly in use under authority of the Commission. The assets and liabilities in the comparative general balance sheet of the companies, as returned December 31, 1917, have been tabulated and the increase or decrease in each class as compared with 1916 appear in the two following tables:—

Assets, December 31, 1916 and 1917.

ASSETS.	1916.	1917.	Increase.
Road and equipment,	\$516,812,725 74	\$519,622,521 95	\$3,209,796 21
Improvements on leased railway property,	10,495,335 84	12,168,616 51	1,673,281 17
Sinking funds,	946,108 72	986,178 51	40,069 79
Deposits in lieu of mortgaged property sold,	—	—	—
Miscellaneous physical property,	5,795,378 13	4,949,970 94	845,307 19*
Investments in affiliated companies,	207,342,779 07	201,489,360 95	5,853,418 12*
Other investments,	46,776,865 24	65,988,115 89	19,211,250 65
Current assets,	54,838,559 99	57,495,039 08	2,656,479 09
Deferred assets,	15,912,643 83	18,445,675 17	2,533,031 34
Unadjusted debits,	5,105,368 26	6,845,119 84	1,739,751 58
Grand total,	\$863,525,164 32	\$887,990,596 84	\$24,465,434 52

* Decrease.

Liabilities, December 31, 1916 and 1917.

LIABILITIES.	1916.	1917.	Increase.
Capital stock, common,	\$283,712,015 70	\$284,568,015 70	\$856,000 00
Capital stock, preferred,	25,009,800 00	25,009,800 00	—
Total capital stock,	\$308,721,815 70	\$309,577,815 70	\$856,000 00
Premium on capital stock,	34,509,999 56	34,509,999 56	—
Funded debt,	248,361,882 50	251,813,791 50	3,451,909 00
Notes,	37,307 69	37,307 69	—
Open accounts,	1,447,399 53	1,464,780 26	17,380 73
Current liabilities,	86,939,531 85	114,006,149 75	27,066,617 90
Deferred liabilities,	25,239,712 37	23,480,017 07	1,759,694 70*
Unadjusted credits,	20,273,568 67	24,945,969 09	4,672,401 12
Appropriated surplus,	8,377,772 69	8,616,680 84	237,908 25
Profit and loss,	29,616,178 96	19,559,146 18	10,077,027 78*
Grand total,	\$863,525,164 32	\$887,990,596 84	\$24,465,434 52

* Decrease.

CAPITAL STOCK AND DIVIDENDS.

The aggregate capital stock December 31, 1917 (not including the premiums on sale of capital stock as returned in the form of return), of the thirty-three corporations making returns was \$309,577,815.70.

The total amount of dividends declared during the year was \$7,295,540, — a decrease of \$18,070 over the previous year.

Twenty-one corporations declared dividends varying in rate from 2½ to 14 per cent; the following table gives the name of the dividend-paying companies, the rate per cent, and amount of dividend declared: —

NAME OF COMPANY.	Rate Per Cent.	Amount of Dividends declared.
Attleboro Branch,	6	\$7,902 00
Boston & Albany,	8½	2,187,500 00
Boston & Lowell,	8	614,352 00
Boston & Providence,	10	399,600 00
Boston, Revere Beach & Lynn,	6	51,000 00
Chatham,	5½	3,751 00
Connecticut River,	10	323,330 00
Fitchburg, ¹	5	943,000 00
Holyoke & Westfield,	14	36,400 00
Lowell & Andover,	9	56,250 00
Nashua & Lowell,	9	72,000 00
New London Northern,	10	150,000 00
North Brookfield,	2½	2,250 00
Norwich & Worcester, ¹	8	240,000 00
Old Colony,	7	1,560,580 00
Pittsfield & North Adams,	5	22,500 00
Providence & Worcester,	10	350,000 00
Stony Brook,	7	21,000 00
Union Freight,	3½	10,045 00
Vermont & Massachusetts,	6	191,580 00
Ware River,	7	52,500 00

The amount of capital stock of the twenty-one dividend-paying companies was \$102,436,725,² on which the average rate of dividend was 7.12 per cent.

The following table gives the total capital stock outstanding at the end of the year; the net income available for dividends (after paying all expenses, interest, taxes, rentals and other charges); the amount of dividends declared; and the average percentage of dividends to total capital stock, for each of the last ten years: —

¹ Preferred stock only.

² Including common stock on which, in the case of two of these companies, no dividend was paid.

Capital Stock, Net Income and Dividends, 1908-1917.

YEARS.	Capital Stock.	Net Divisible Income.	Dividends Declared.	Percent- age to Total Capital Stock.
1908,	\$235,462,291	\$11,802,253	\$17,683,965	7.51
1909,	238,900,816	16,065,768	16,964,681	7.10
1910,	285,100,341	20,162,394 ¹	18,996,657	6.70
1911,	324,445,166	17,335,645 ¹	21,780,406	6.71
1912,	328,838,816	21,997,307 ¹	23,298,074	7.06
1913,	330,011,516	16,044,299 ¹	22,136,779	6.70
1914,	330,012,176	4,564,500 ¹	9,650,896	2.92
1915,	308,721,816	9,181,350 ¹	7,292,240	2.36
1916, ²	308,712,816	20,727,735 ¹	7,313,610	2.37
1917, ²	309,577,816	9,197,476 ¹	7,295,540	2.35

¹ Appropriations for additions, betterments and reserves deducted.² Year ending December 31.

FUNDED DEBT.

The aggregate funded debt of the companies December 31, 1917 (not including "nonnegotiable debt to affiliated companies" as returned in the form of return), was \$351,813,791.50, — an increase of \$3,451,909.00 over the previous year, resulting from additions and deductions as follows: —

Additions: —	
Boston & Albany,	\$1,000,000 00
Grafton & Upton,	250,000 00
New York, New Haven & Hartford,	2,514,909 00
Total additions to funded debt,	\$3,764,909 00
Deductions: —	
Boston & Lowell,	\$200,000 00
Central Vermont,	111,000 00
Hoosac Tunnel & Wilmington,	2,000 00
Total deductions from funded debt,	\$313,000 00
Net additions to funded debt,	\$3,451,909 00

INCOME AND EXPENDITURES.

The total income of the companies from all sources, for the year ending December 31, 1917, was \$193,976,221.96, and the total expenditures, including dividends declared, were \$192,074,285.81, showing a net surplus for the year of \$1,901,936.15 to be added to the surplus account.

The sources of total income, and the amount derived from each source as compared with the previous year, were as follows:—

Total Income, December 31, 1916 and 1917.

INCOME.	1916.	1917.	Increase.
Total railway operating revenues, . . .	\$163,463,009 76	\$173,799,798 12	\$10,336,788 36
Miscellaneous operating income, . . .	9,321 48	9,070 02	251 46*
Income from lease of road, . . .	12,384,287 09	12,432,637 51	48,350 42
Nonoperating income, . . .	7,889,404 37	7,734,716 31	154,688 06*
Gross income, . . .	\$183,746,022 70	\$193,976,221 96	\$10,230,199 26

* Decrease.

The items of the total expenditures for the year 1916, and also those for the year 1917, with the surplus for the above years, and the increase or decrease in each item are shown in the following table:—

Total Expenditures, December 31, 1916 and 1917.

EXPENDITURES.	1916.	1917.	Increase.
Railway operating expenses, . . .	\$110,802,264 92	\$131,079,361 36	\$20,277,106 44
Railway tax accruals, . . .	6,108,976 69	6,631,108 17	512,131 48
Rents for lease of road, . . .	15,249,488 98	15,312,005 01	62,516 03
Hire and rent of equipment, . . .	7,949,021 02	7,767,464 24	181,556 78*
Joint facilities and other rents, . . .	3,569,763 77	3,692,968 03	123,204 26
Interest on funded and other debts, . . .	17,817,677 07	18,659,394 65	841,717 58
Other deductions from income, . . .	1,320,725 01	1,455,388 81	134,663 80
Dividend appropriations of income, . . .	7,313,610 00	7,295,540 00	18,070 00*
Other appropriations of income, . . .	200,379 79	191,055 54	9,324 25*
Gross expenditures, . . .	\$170,331,897 25	\$192,074,285 81	\$21,742,388 56
Surplus for the year, . . .	13,414,125 45	1,901,936 15	11,512,189 30*

* Decrease.

OPERATING REVENUES AND EXPENSES.

The operating revenues and expenses of operation for the year ending December 31, 1917, are classified, and compared with those of the previous year in the following table: —

Operating Revenues and Expenses, December 31, 1916 and 1917.

REVENUES AND EXPENSES.	1916.	1917.	Increase.
Freight revenue,	\$87,678,738 32	\$90,883,228 71	\$3,204,490 39
Passenger revenue,	55,957,122 00	61,769,411 47	5,812,289 47
Excess baggage revenue,	288,961 11	260,168 97	28,792 14*
Sleeping, parlor and chair car revenue,	15,375 25	16,485 61	1,210 36
Mail revenue,	1,887,406 11	2,512,123 60	624,727 49
Express revenue,	6,984,158 70	7,067,146 91	82,988 21
Milk revenue,	1,193,355 91	1,370,206 67	176,850 76
Other rail-line revenue,	2,657,007 88	2,707,562 79	50,554 91
Total rail-line transportation revenue,	\$156,662,027 28	\$166,586,343 73	\$9,924,316 45
Water-line transportation revenue,	15,172 64	13,040 14	2,132 50*
Incidental operating revenue,	6,006,192 45	6,372,350 67	366,158 22
Joint facility operating revenue,	779,617 39	823,063 58	43,446 19
Total railway operating revenue,	\$163,463,009 76	\$173,799,798 12	\$10,336,788 36
Operating expenses,	110,802,254 92	131,079,361 36	20,277,106 44
Net revenue from railway operations,	\$52,660,754 84	\$42,720,436 76	\$9,940,318 08*

* Decrease.

The next table shows the revenue from passenger service and freight service respectively, the other revenue from operation, and the total operating revenues on all of the roads for each of the past ten years: —

Total Revenue from Operation for Ten Years, 1908-1917.

YEARS.	Revenue from Passenger Service.	Revenue from Freight Service.	Other Revenue from Operation.	Total Operating Revenues.
1908,	\$49,088,323	\$55,687,041	\$1,594,123	\$106,369,486
1909,	48,468,423	56,945,111	2,702,338	108,105,772
1910,	52,905,871	64,070,157	3,074,965	120,140,993
1911,	55,602,106	65,038,750	3,318,634	123,959,490
1912,	57,142,152	68,266,492	3,665,667	129,074,311
1913,	59,553,665	72,867,194	4,189,454	136,610,313
1914,	58,964,655	69,902,960	4,251,698	133,229,333
1915,	57,861,917	66,664,516	6,310,502	133,836,935
1916, ¹	66,326,281	87,678,738	9,457,991	163,463,010
1917, ¹	72,965,552	90,833,229	9,921,017	173,799,798

¹ Year ending December 31.*Ratio of Operating Expenses to Operating Revenues.*

The following table gives in like manner the total operating revenues, the operating expenses, the ratio of operating expenses to total operating revenues, and the net revenue from operation for all the companies for ten years:—

Ratio of Operating Expenses to Total Operating Revenues, 1908-1917.

YEARS.	Total Operating Revenues.	Operating Expenses.	Ratio of Operating Expenses to Operating Revenues.	Net Revenue from Operation.
1908,	\$106,369,486	\$80,956,652	76.15	\$25,352,834
1909,	108,105,772	75,048,921	69.42	33,056,851
1910,	120,140,993	82,067,516	68.31	38,073,477
1911,	123,959,490	89,525,902	72.22	34,433,588
1912,	129,074,311	90,131,969	69.83	38,942,342
1913,	136,610,313	99,565,217	72.83	37,045,096
1914,	133,229,333	101,633,848	76.28	31,596,990
1915,	133,836,935	95,884,771	71.64	37,952,164
1916, ¹	163,463,010	110,802,255	67.78	52,660,755
1917, ¹	173,799,798	131,079,361	75.42	42,720,437

¹ Year ending December 31.

INCOME AND EXPENDITURES OF THE THREE LEADING RAILROADS IN THE COMMONWEALTH.

The following table shows in detail the revenues, income and expenditures of the three leading railroads of the Commonwealth as returned for the year ending December 31, 1917:—

Revenues, Income and Expenditures for the Year ending December 31, 1917.

	Boston & Albany. ¹	Boston & Maine.	New York, New Haven & Hartford.
Revenue from freight,	\$12,218,505 79	\$35,080,736 68	\$40,395,996 57
Revenue from passenger,	7,444,694 33	17,814,737 02	34,427,801 28
Revenue from other transportation,	1,811,426 91	4,663,107 47	6,918,046 38
Revenue from incidental operations,	1,017,188 82	1,892,100 88	3,290,545 45
Revenue from joint facility,	75,466 44	95 96	752,501 18
Total railway operating revenues,	\$22,563,282 29	\$59,450,778 61	\$85,784,892 86
Net revenue from miscellaneous operations,	-	-	9,070 02
Nonoperating income,	395,812 42	1,232,915 18	7,260,789 66
Total income,	\$22,958,094 71	\$60,683,693 79	\$93,054,752 54
Operating expenses,	\$16,944,223 09	\$47,164,940 60	\$61,970,069 84
Taxes,	883,869 95	2,156,648 96	3,236,980 25
Hire of equipment,	1,695,485 21	3,317,951 37	2,670,532 78
Rent of leased lines,	3,161,946 38	5,695,961 67	6,156,544 46
Joint facility and other rents,	203,630 36	155,652 68	3,293,506 61
Interest on funded debt,	-	1,754,980 00	9,282,632 81
Interest on unfunded debt,	2 94	799,014 35	2,639,949 72
Other deductions,	73,469 50	3,790 82	1,300,449 63
Total deductions,	\$22,962,627 43	\$61,048,940 45	\$90,650,657 10
Net income,	\$4,532 72d	\$365,246 66d	\$2,404,095 44
Income applied to sinking and other reserve funds,	-	\$54,137 35	-
Dividend appropriations of income,	-	-	-
Rate per cent,	-	-	-
Other deductions,	-	-	-
Total appropriations of income,	-	\$54,137 35	-
Surplus for the year,	\$4,532 72d	\$419,384 01d	\$2,404,095 44
Per cent of operating expenses to operating revenues,	75.10	79.33	73.94

¹ Operations of the New York Central Railroad, Lessee.

^d Deficit.

The miles of track owned, and also track operated December 31, 1917, of the three leading railroads of the Commonwealth, are stated in detail in the following table:—

Miles of Track Owned and Operated December 31, 1917.

	Boston & Albany (Miles). ¹	Boston & Maine (Miles).	New York, New Haven & Hartford (Miles).
TRACK OWNED.			
Main line and branches,	303.63	731.38	1,233.69
Second track,	218.83	233.64	482.69
Third track,	86.09	-	70.71
Fourth track,	24.84	-	69.33 ²
Side track,	384.75	427.67	884.72
Total track owned,	1,018.14	1,392.69	2,741.14
TRACK OPERATED.			
Main line and branches,	398.97	2,305.41	1,906.59
Second track,	218.83	591.14	819.95
Third track,	86.09	4.20	120.01
Fourth track,	24.84	1.98	115.43
Fifth track,	-	-	10.27
Sixth track,	-	-	10.17
Side track,	412.57	1,375.54	1,522.51
Total track operated,	1,136.30	4,278.27	4,594.93

¹ Operated by New York Central Railroad, Lessee.² Includes .61 of a mile of fifth and .54 of a mile of sixth track.*Revenues and Expenses per Mile of Road Operated.*

The average operating revenues and expenses of operation, and net operating revenue per mile of road operated by all the companies for the past ten years and by the three leading companies for the last year, are shown in the following tables:—

Revenues and Expenses per Mile of Road Operated, 1908-1917.

YEARS.	Total Operating Revenues.	Operating Ex- penses.	Net Operating Revenue.	YEARS.	Total Operating Revenues.	Operating Ex- penses.	Net Operating Revenue.
1908,	\$21,602	\$16,450	\$5,152	1913,	\$27,301	\$19,897	\$7,403
1909,	21,979	15,268	6,721	1914,	27,229	20,772	6,457
1910,	24,668	16,850	7,818	1915,	25,222	18,070	7,152
1911,	25,207	18,305	7,002	1916, ¹	31,623	21,435	10,188
1912,	25,978	18,140	7,838	1917, ¹	33,567	25,316	8,251

¹ Year ending December 31.

*Operating Revenues and Expenses per Mile of Road Operated (Three Roads)
in 1917.*

RAILROAD COMPANIES.	Total Operating Revenues.	Operating Expenses.	Net Operating Revenue.
Boston & Albany,	\$57,269	\$43,009	\$14,260
Boston & Maine,	26,199	20,783	5,417
New York, New Haven & Hartford,	43,000	31,063	11,937

Operating Revenues and Expenses per Revenue-Train Mile.

The average operating revenues and expenses of operation, and the net operating revenue, per total mile run by trains, earning revenue, on all the roads, for each of the last ten years, are stated in the following table: —

Operating Revenues and Expenses per Total Revenue-Train Mile 1908-1917.

YEARS.	Total Operating Revenues.	Operating Ex- penses.	Net Operating Revenue.	YEARS.	Total Operating Revenues.	Operating Ex- penses.	Net Operating Revenue.
1908,	\$2.002	\$1.525	\$0.477	1913,	\$2.400	\$1.749	\$0.650
1909,	2.112	1.466	.646	1914,	2.483	1.894	.589
1910,	2.235	1.527	.708	1915,	2.656	1.903	.753
1911,	2.246	1.622	.624	1916, ¹	2.983	2.025	.963
1912,	2.338	1.633	.705	1917, ¹	3.319	2.503	.816

¹ Year ending December 31.

*Operating Revenues and Expenses per Revenue-Train Mile (Three Roads)
in 1917.*

RAILROAD COMPANIES.	Gross Passenger Revenue per Passenger- Train Mile.	Gross Freight Revenue per Freight- Train Mile.	PER TOTAL REVENUE-TRAIN MILE.		
			Total Operating Revenues.	Operating Expenses.	Net Operating Revenue.
Boston & Albany,	\$2.247	\$3.137	\$3.887	\$2.168	\$0.719
Boston & Maine,	1.946	4.017	3.015	2.392	.623
New York, New Haven & Hart- ford.	2.694	5.803	3.921	2.833	1.088

The average gross passenger revenue per passenger-train mile and the gross freight revenue per freight-train mile, and the total operating revenues, expenses and net operating revenue per total revenue-train mile of the three leading railroads of the Commonwealth are given for the last year in the preceding table.

The ratio of operating expenses to operating revenues of the three leading railroads of the Commonwealth for the year ending December 31, 1917, is given in detail in the following table:—

Ratio of Operating Expenses to Operating Revenues (Three Roads) in 1917.

	Boston & Albany.	Boston & Maine.	New York, New Haven & Hartford.
Maintenance of way and structures,	8.97	10.42	10.51
Maintenance of equipment,	12.13	14.78	14.21
Traffic,	1.06	.75	.61
Transportation,	48.78	50.41	42.39
Miscellaneous operations,	1.84	.49	1.64
General expenses,	2.32	2.48	2.88
Total operating expenses,	75.10	79.33	72.24

Operating Expenses per Revenue-Train Mile (Three Roads) in 1917.

	Boston & Albany.	Boston & Maine.	New York, New Haven & Hartford.
Maintenance of way and structures,	\$0 26	\$0 32	\$0 41
Maintenance of equipment,	35	45	56
Traffic,	03	02	02
Transportation,	1 41	1 53	1 66
Miscellaneous operations,	06	01	07
General expenses,	07	07	11
Total operating expenses per revenue-train mile,	\$2 17	\$2 40	\$2 83

The next table gives the cost of repairs per locomotive and per car on each of the same three roads the last year:—

Cost of Repairs per Locomotive and per Car (Three Roads) in 1917.

RAILROAD COMPANIES.	Per Locomotive.	Per Passenger Car. ¹	Per Freight Car.
Boston & Albany,	\$3,525 03	\$620 49	\$73 02
Boston & Maine,	2,918 75	505 33	130 53
New York, New Haven & Hartford, . . .	3,389 35	474 89	79 54

¹ Including baggage, express and postal cars.

VOLUME OF TRAFFIC.

Train Mileage.

The total number of miles run by passenger trains the last year, on the roads of all the companies, was 31,810,758 — a decrease of 1,281,698 miles from the previous year; by freight trains, 19,953,191 — a decrease of 992,564 miles; and by all other trains, 604,683 — a decrease of 67,045 miles, making the total number of miles run by trains of all kinds, 52,368,632 — a decrease of 2,341,307 miles from the previous year.

The mileage of passenger, freight and other trains; for each of the last ten years, is stated in the following table: —

Train Mileage for Ten Years, 1908–1917.

YEARS.	MILES RUN BY —			Total Train Mileage.
	Passenger Trains.	Freight Trains.	Other Trains.	
1908,	33,319,361	19,457,544	323,218	53,100,123
1909,	31,992,621	18,750,060	446,905	51,189,586
1910,	33,304,522	19,888,151	558,544	53,751,217
1911,	34,257,020	20,372,908	567,637	55,197,565
1912,	33,947,537	20,728,350	614,673	55,290,460
1913,	34,819,721	21,637,543	642,774	57,100,038
1914,	33,798,115	19,260,909	601,513	53,660,537
1915,	32,281,064	17,488,375	613,148	50,382,487
1916, ¹	33,092,456	20,945,755	671,723	54,709,939
1917, ¹	31,810,758	19,953,191	604,683	52,368,632

¹ Year ending December 31.

NOTE. — The passenger and freight-train mileage for the years 1908 to 1914, inclusive, has been reclassified on the basis of actual passenger and freight-train miles in accordance with requirements of the 1915 report.

The next table shows the revenue-train mileage on each of the three leading railroads of the Commonwealth for the last year:—

Revenue-Train Mileage (Three Roads) in 1917.

RAILROAD COMPANIES.	MILES RUN BY —			Total Revenue-Train Mileage.
	Passenger Trains.	Freight Trains.	Mixed and Special Trains.	
Boston & Albany,	3,919,100	3,324,060	70,282	7,814,102
Boston & Maine,	10,824,929	8,504,556	294,456	19,623,941
New York, New Haven & Hartford,	14,883,979	6,840,382	153,042	21,877,403

Passenger Traffic.

The total number of passengers carried the last year was 176,350,853 — an increase of 9,579,250 passengers over the previous year. Each passenger on the steam roads travelled on the average a distance of 18.52 miles, making the total passenger mileage 3,265,777,891, an increase of 271,765,890 over the previous year.

The total volume of passenger traffic for each of the last ten years is shown in the following table:—

Passenger Mileage for Ten Years, 1908–1917.

YEARS.	Passengers Carried.	Average Journey (Miles).	Total Passenger Mileage.	Average Number of Passengers per Train Mile.
1908,	144,844,546	17.58	2,546,160,478	76
1909,	147,051,164	17.39	2,556,994,990	79
1910,	160,769,201	17.23	2,771,121,457	83
1911,	162,940,242	17.24	2,806,985,698	81
1912,	166,006,254	17.30	2,871,949,251	84
1913,	170,278,768	17.39	2,961,169,563	85
1914,	168,251,728	17.59	2,959,488,969	87
1915,	159,285,185	17.44	2,778,895,343	84
1916, ¹	166,771,603	17.96	2,994,012,001	89
1917, ¹	176,350,853	18.52	3,265,777,891	101

¹ Year ending December 31.

The passenger mileage on the three leading railroads during the last year was as follows:—

Passenger Mileage (Three Roads) in 1917.

RAILROAD COMPANIES.	Passengers Carried.	Average Journey (Miles).	Total Passenger Mileage.	Average Number of Passengers per Train Mile.
Boston & Albany,	12,723,933	29.81	379,340,858	96
Boston & Maine,	47,564,736	19.49	926,966,413	84
New York, New Haven & Hartford,	92,607,506	19.59	1,814,460,722	121

Freight Traffic.

The total number of tons of freight hauled on all the roads the last year was 75,268,849—an increase of 1,410,264 tons over the previous year. Each ton of freight was hauled on the average a distance of 105.12 miles, making the total freight mileage, 7,912,433,964—an increase of 313,973,131 tons hauled one mile, over the previous year.

Freight Mileage for Ten Years, 1908–1917.

YEARS.	Tons of Freight Hauled.	Average Haul (Miles).	Total Freight Mileage.	Average Number of Tons of Freight per Train Mile.
1908,	47,251,469	99.25	4,689,724,439	238
1909,	49,259,397	97.51	4,803,498,797	253
1910,	55,786,434	97.41	5,433,908,081	273
1911,	56,557,644	97.85	5,534,064,740	268
1912,	59,288,347	98.57	5,843,933,729	277
1913,	63,729,052	101.09	6,442,438,763	293
1914,	60,661,003	99.66	6,045,226,122	308
1915,	59,637,808	99.14	5,912,684,341	327
1916, ¹	73,858,585	102.87	7,598,460,833	353
1917, ¹	75,268,849	105.12	7,912,433,964	387

¹ Year ending December 31.

The preceding table gives the total volume of freight traffic for each of the last ten years.

The next table gives the freight mileage on the three leading roads for the last year:—

Freight Mileage (Three Roads) in 1917.

RAILROAD COMPANIES.	Tons of Freight Hauled.	Average Haul (Miles).	Total Freight Mileage.	Average Number of Tons of Freight per Train Mile.
Boston & Albany,	12,260,222	124.99	1,532,446,245	394
Boston & Maine,	28,457,813	117.43	3,341,898,595	383
New York, New Haven & Hartford,	30,220,809	91.86	2,776,143,607	397

FARES AND FREIGHTS.

Passenger Fares.

The average passenger fare per mile on the Massachusetts railroads for each of the last thirty years, as ascertained from the annual returns to the Commission, is given in the following table:—

Average Passenger Fare per Mile (All Massachusetts Roads) for 30 Years, 1888-1917.

YEARS.	Fares.	YEARS.	Fares.	YEARS.	Fares.
	Cents.		Cents.		Cents.
1888,	1.90	1898,	1.78	1908,	1.63
1889,	1.87	1899,	1.77	1909,	1.64
1890,	1.82	1900,	1.75	1910,	1.65
1891,	1.83	1901,	1.75	1911,	1.72
1892,	1.83	1902,	1.73	1912,	1.73
1893,	1.83	1903,	1.73	1913,	1.74
1894,	1.80	1904,	1.72	1914,	1.72
1895,	1.78	1905,	1.70	1915,	1.81
1896,	1.79	1906,	1.70	1916, ¹	1.87
1897,	1.80	1907,	1.65	1917, ¹	1.89

¹ Year ending December 31.

The following table gives the average passenger fares per mile on the *three* leading Massachusetts railroads, taken singly and as a group, for the years 1900, 1908, and for each of the last four years, 1914 to 1917, inclusive:—

Average Passenger Fare per Mile (Three Roads) in 1900, 1908 and 1914-1917.

RAILROAD COMPANIES.	1900.	1908.	1914.	1915.	1916. ¹	1917. ¹
Boston & Albany,	Cents. 1.75	Cents. 1.77	Cents. 1.81	Cents. 1.85	Cents. 1.93	Cents. 1.96
Boston & Maine,	1.73	1.71	1.77	1.83	1.86	1.89
New York, New Haven & Hartford, .	1.78	1.59	1.71	1.83	1.88	1.90
All companies,	1.75	1.65	1.74	1.83	1.88	1.90

¹ Year ending December 31.

Freight Rates.

In the tables which follow, the average rates per ton mile for the transportation of merchandise on the railroads making returns to the Commission are shown for the same years and intervals of years, for all of the roads and for the same group of roads, as in the preceding tables of passenger fares.

The first table gives the average freight rate per ton mile on all of the roads for each of the last thirty years:—

Average Freight Rate per Ton Mile (All Massachusetts Roads) for 30 Years, 1888-1917.

YEARS.	Rates.	YEARS.	Rates.	YEARS.	Rates.
	Cents.		Cents.		Cents.
1888,	1.55	1898,	1.23	1908,	1.17
1889,	1.50	1899,	1.18	1909,	1.19
1890,	1.45	1900,	1.23	1910,	1.18
1891,	1.42	1901,	1.30	1911,	1.17
1892,	1.36	1902,	1.24	1912,	1.17
1893,	1.39	1903,	1.23	1913,	1.13
1894,	1.33	1904,	1.27	1914,	1.16
1895,	1.28	1905,	1.14	1915,	1.13
1896,	1.28	1906,	1.28	1916, ¹	1.15
1897,	1.25	1907,	1.19	1917, ¹	1.15

¹ Year ending December 31.

The decrease in the average rate per ton mile during the year ending December 31, 1917, was not due to a decrease in

rates, for rates increased on the whole, but to a difference in the character of freight handled and in the average length of haul.

The following table shows the average rate per ton mile on the *three* leading railroads of the Commonwealth, taken singly and as a group, in 1900, 1908, and for each of the last four years, 1914 to 1917, inclusive: —

Average Freight Rate per Ton Mile (Three Roads) in 1900, 1908 and 1914-1917.

RAILROAD COMPANIES.	1900.	1908.	1914.	1915.	1916. ¹	1917. ¹
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
Boston & Albany,	0.83	0.87	0.83	0.81	0.79	0.80
Boston & Maine,	1.44	1.04	1.06	1.12	1.05	1.05
New York, New Haven & Hartford, .	1.45	1.42	1.42	1.43	1.51	1.46
All companies,	1.31	1.15	1.15	1.18	1.16	1.15

¹ Year ending December 31.

ROLLING STOCK.

The following table shows the amount of rolling stock (owned and leased) of all the companies, as returned at the end of each of the last seven years: —

Schedule of Rolling Stock, 1911-1917.

ROLLING STOCK.	1911.	1912.	1913.	1914.	1915.	1916. ¹	1917. ¹
Locomotives,	2,379	2,830	3,020	2,984	2,984	2,945	2,886
Passenger cars,	4,349	4,449	4,172	4,179	3,758	4,075	4,079
Baggage, express and postal cars, .	763	805	789	794	904	897	928
Freight cars,	67,084	66,134	67,604	66,775	69,810	68,674	67,813
Gravel cars, etc.,	3,218	3,049	3,213	3,770	3,218	2,977	3,271

¹ Year ending December 31.

NUMBER OF EMPLOYEES.

The average number of persons employed during the year ending December 31, 1917, by all the railroad companies making returns to the Commission was 77,903 — an increase of

7,448 over the previous year. The following table gives the average number of employees for each of the last ten years: —

Average Number of Employees, 1908-1917.

YEARS.	Number of Employees.	YEARS.	Number of Employees.
1908,	67,435	1913,	73,661
1909,	64,725	1914,	71,676
1910,	69,798	1915,	65,178
1911,	70,719	1916, ¹	70,456
1912,	70,862	1917, ¹	77,903

¹ Year ending December 31.

SUMMARY OF RAILROAD ACCIDENTS.

The number of persons killed and injured in the operation of railroads in Massachusetts during the year ended June 30, 1918, as reported by the several companies, together with the number reported in each of the preceding ten years, is shown by the following table: —

Number of Persons Killed and Injured on Railroads in Massachusetts, 1908-1918.

YEAR ENDED JUNE 30.	PASSENGERS.		EMPLOYEES.		TRAVELERS ON HIGHWAY AT GRADE CROSSINGS.		TRESPASSERS.		OTHER.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1908,	11	50	92	633	27	30	146	75	15	21	291	809
1909,	11	123	74	307	22	13	131	64	12	12	250	579
1910,	9	65	89	210	20	9	164	50	12	15	303	349
1911,	11	53	87	181	25	20	162	48	18	21	303	331
1912,	15	103	91	144	24	19	132	60	17	14	279	340
1913,	14	167	97	205	23	19	175	71	10	20	319	482
1914,	10	38	64	138	20	11	148	73	16	5	258	265
1915,	10	43	45	102	26	18	138	67	13	13	233	248
1916,	8	99	64	53	20	14	158	38	14	10	264	213
1917,	17	25	77	36	26	20	145	37	19	10	284	128
Total,	116	770	780	2,063	242	182	1,400	583	146	141	2,783	3,744
Average,	11	77	78	207	24	18	150	58	15	14	278	374
1918,	15	41	87	35	40	33	98	24	7	4	247	137

The total number of persons killed and injured during the year ended June 30, 1918, namely, 384, shows a decrease of 28 from the aggregate number reported for the preceding fiscal year, and a decrease of 268 from the average number reported annually for the preceding ten years. Of the total number of casualties, 247 were fatal, as against 284 reported for the year ended June 30, 1917, and as against 278, the average number of fatalities reported annually for the preceding ten years; while 137 were not fatal, as against 128 reported during the year ended June 30, 1917, and as against an average of 374 for the preceding ten-year period.

The percentage of passengers, employees, travellers on highway at grade crossings, and trespassers killed and injured during the year ended June 30, 1918, to the total number of casualties, is shown by the following table:—

	Killed.	Injured.	Total.
Passengers,	6.07	29.93	14.68
Employees,	35.23	25.54	31.77
Travellers on highway at grade crossings, . .	16.19	24.09	19.01
Trespassers,	39.68	17.52	31.77
Other,	2.83	2.92	2.87
Total,	100.00	100.00	100.00

Passengers.

Fifteen passengers were killed and 41 injured during the year. Of the fatalities to passengers, 3 were reported to have occurred from causes beyond their control and 12 were reported to have occurred as the result of their own imprudence or negligence. Of the number of passengers injured, namely, 41, 31 were reported as injured from causes beyond their control, while 10 were reported as injured through their own imprudence or negligence. The total number of passengers killed and injured during the preceding year was 17 and 25 respectively; the average number of passengers killed and injured annually during the years 1908–1917 was 11 and 77 respectively.

The character of accidents to passengers during the year ended June 30, 1918, is shown by the following:—

CHARACTER OF ACCIDENT.	Killed.	Injured.
Collision,	—	8
Derailement,	1	25
Falling,	1	2
Crossing track,	8	3
Getting on or off trains, cars, etc.,	5	3
Total,	15	41

Employees.

During the year 87 employees were killed and 35 were injured, as against 77 killed and 36 injured during the preceding twelve months. The average number of employees killed and injured annually during the preceding ten years was 78 and 207, respectively.

The number of employees killed and injured during the year ended June 30, 1918, classified by character of employment, is shown by the following:—

CHARACTER OF EMPLOYMENT.	1917.		1918.	
	Killed.	Injured.	Killed.	Injured.
Enginemen and firemen,	7	9	3	10
Conductors and trainmen,	33	17	34	12
Trackmen and laborers,	15	3	21	6
Bridgemen,	1	—	—	—
Shopmen,	3	2	6	2
Signalmen, linemen,	1	1	1	1
Crossingmen,	7	—	4	1
Stationmen,	—	—	1	—
Inspectors,	1	—	2	—
Machinists,	2	—	—	—
Freight handlers,	—	2	2	1
Yardmen,	—	—	1	1
Watchmen and janitors,	1	—	2	—
Engine-house men,	3	—	4	—
Car cleaners,	1	—	2	1
Carpenters, painters, masons,	1	1	—	—
Other,	1	1	4	—
Total,	77	36	87	35

The following table shows the character of accidents to employees during the year ended June 30, 1918:—

CHARACTER OF ACCIDENT.	1917.		1918.	
	Killed.	Injured.	Killed.	Injured.
Collision,	5	12	3	9
Deraiment,	1	—	—	1
Overhead and side obstruction, . .	5	4	8	2
Coupling and uncoupling, . . .	6	2	8	1
Falling,	9	5	6	5
Engine accidents,	1	—	1	—
Walking on or crossing tracks, . .	27	6	30	4
Getting on or off cars, trains, etc., .	2	3	4	6
Working on track,	16	2	22	4
Other,	5	2	5	3
Total,	77	36	87	35

Grade Crossings.

The number of travellers on highway killed at grade crossings during the year was 40, and the number injured 33, as against 26 killed and 20 injured during the preceding year.

Of the total number killed, 30 were killed at grade crossings protected by gates, flagmen or warning-bells; and 10 at unprotected crossings (including 2 persons killed at crossings ordinarily protected, but unprotected at the time of the accident).

Of the total number injured, namely, 33, 21 were injured at protected crossings; 11 at unprotected crossings (including 4 persons injured at crossings ordinarily protected, but unprotected at the time of the accident), and 1 at a private crossing.

The following table shows, for the year ended June 30, 1918, the number and character of accidents at grade crossings on the different railroads:—

Accidents at Grade Crossings during the Year ended June 30, 1918.

RAILROADS.	PROTECTED CROSSINGS.				UNPROTECTED CROSSINGS.				TOTAL.				AT PRIVATE CROSSINGS.	
	Num- ber.	Killed.	In- jured.	Ratio of Accidents to Crossings.	Num- ber.	Killed.	In- jured.	Ratio of Accidents to Crossings.	Num- ber.	Killed.	In- jured.	Ratio of Accidents to Crossings.	Killed.	In- jured.
Attleborough Branch,	-	-	-	-	15	-	-	-	15	-	-	-	-	-
Boston & Albany,	65	1	-	1 to 65	120	-	-	-	185	1	-	1 to 185	-	-
Boston & Maine,	509	16	8	1 to 21	200	6	5	1 to 18	709	22	13	1 to 20	-	-
Boston, Revere Beach & Lynn,	9	-	1	1 to 9	-	-	-	-	9	-	1	1 to 9	-	-
Grafton & Upton,	1	-	-	-	29	-	-	-	30	-	-	-	-	-
Hoosac Tunnel & Wilmington,	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Nantucket,	3	-	-	-	-	-	-	-	3	-	-	-	-	-
New London Northern,	6	-	-	-	40	-	-	-	46	-	-	-	-	-
New York, New Haven & Hartford,	467	13	12	1 to 19	300	4	6	1 to 80	767	17	18	1 to 22	-	1
Totals for the year,	1,000	30	21	1 to 21	705	10 ¹	11 ²	1 to 24	1,765	40	32	1 to 25	-	1 ²
Totals for the year ending June 30, 1917,	1,045	21	15	1 to 29	720	2	4	1 to 120	1,765	23	19	1 to 43	3 ²	1 ²

¹ Includes 2 persons killed at crossings ordinarily protected, but unprotected at time of accident.

² Includes 4 persons injured at crossings ordinarily protected, but unprotected at time of accident.

³ Unprotected.

NOTE: The figures showing the number of crossings are for the years ended December 31, 1916 and 1917 respectively.

Trespassers.

The total number of trespassers killed during the year ended June 30, 1918, was 98; the number of trespassers injured was 24. During the preceding year 145 trespassers were killed and 37 injured, while the average number killed and injured annually for the preceding ten years was 150 and 58 respectively.

The character of accidents to trespassers during the year ended June 30, 1918, is shown by the following:—

CHARACTER OF ACCIDENT.	Killed.	Injured.
Overhead or side obstruction,	2	4
Falling,	4	3
Walking on or crossing track,	82	13
Getting on or off cars, trains, etc.,	9	3
Other,	1	1
Total,	98	24

Other Persons.

Two persons were reported killed and 2 injured during the year, classified as follows:—

	Killed.	Injured.
Employees of contractors, consignees and consignors, . .	2	1
Government employees,	—	1
Total,	2	2

In addition to the above, 5 persons were reported killed and 2 injured, whose proper classification in the reports of accidents was indeterminable.

RAILWAY STATISTICS.

Annual returns for the year ending December 31, 1917, have been received from fifty-three railway companies. Returns have also been received from the receiver of the Bay State and the Norton & Taunton, also from the receivers of the Bristol County Property (this property was sold to the Taunton & Pawtucket at a receivers' sale in 1904), and a return from the Providence & Fall River to September 22, 1917, when the road was sold to the Swansea & Seekonk.

COMPANIES ADDED TO THE LIST.

During the year two companies were organized under the general law and added to the list, namely, the Norton, Taunton & Attleboro (purchaser of the Norton & Taunton at a receiver's sale) and the Swansea & Seekonk (purchaser of the Providence & Fall River).

COMPANIES DROPPED FROM THE LIST.

During the past year two companies have been dropped from the list, the Norton & Taunton and the Providence & Fall River, the properties having been sold to new companies formed as above stated.

OPERATION OF COMPANIES.

There were, at the end of the year, fifty-three existing companies; of this number, thirty-eight operated their railway and fifteen were operated under lease or contract by other companies.

RAILWAY MILEAGE.

New Mileage.

There was an increase during the past year in the mileage of the Massachusetts companies of 1.931 miles of street railway line, and an increase of 3.172 miles of second track, making a

total increase of 5.103 miles of main track. There was also an increase of 8.524 miles of side track, making a total increase of 13.627 miles reckoned as single track.

Mileage Owned.

The Massachusetts companies now own 2,359.424 miles of street railway line, 531.899 miles of second main track and 204.406 miles of side track, making the total length of track owned, reckoned as single track, 3,095.729 miles. All the track owned is surface street railway track, with the exception of 14.852 miles of elevated line and 14.632 miles of elevated second track. Of the sidings, all are surface track, with the exception of 10.000 miles of elevated track. All the elevated track is located in the cities of Boston and Cambridge.

Mileage Operated.

The total miles of main track (including trackage rights) operated was 3,007.841, — an increase of 25.844 miles over the previous year.

The Bay State leases and operates the Nashua, located in New Hampshire, and the Newport and Fall River, located in Rhode Island, having a total mileage of 38.930 miles of main and second track. The Berkshire leases and operates The Vermont Company, having a mileage of main and second track of 26.660 miles, located in Vermont. The Massachusetts Northeastern owns, leases and operates 43.810 miles of main and second track, located in New Hampshire. Accordingly, 109.400 miles of main and second track are operated outside of this Commonwealth.

STATISTICS.

The following compilations of statistics are from the returns of the several street railway companies to the Commission for the year ending December 31, 1917.

The following table gives the length of railway line and track and total reckoned as single track returned by the companies for the year ending December 31, 1917, as compared with the previous year: —

Street Railway Mileage Owned, December 31, 1916 and 1917.

MILEAGE OWNED.	1916.	1917.	Increase.
Length of railway line,	2,357.493	2,359.424	1.931
Length of second track,	528.737	531.599	2.172
Total length of main line,	2,886.230	2,891.323	5.103
Length of side track,	196.883	204.406	8.524
Total reckoned as single track,	3,083.102	3,095.729	12.627

COMPARATIVE GENERAL BALANCE SHEET.

In any examination for purposes of comparison between the report here following and reports prior to 1914, it must be distinctly understood that by reason of the adoption by the Commission, under authority of law, of the form of return prescribed by the Interstate Commerce Commission, the return now adopted differs substantially in principle from the return formerly in use under authority of the Commission. The assets and liabilities in the comparative general balance sheet of the companies, as returned December 31, 1917, have been tabulated and the increase or decrease in each class as compared with 1916 appears in the two following tables:—

Assets, December 31, 1916 and 1917.

ASSETS.	1916.	1917.	Increase.
Cost of railway,	\$116,141,887 45	\$117,878,967 46	\$1,736,980 01
Cost of equipment,	38,783,683 80	39,531,388 53	747,704 73
Cost of land, buildings, etc.,	49,853,256 33	51,273,441 56	1,420,185 23
Cost of other permanent investments,	1,803,612 78	1,601,668 55	201,944 23*
Total cost of permanent investments,	\$306,582,440 36	\$210,285,366 10	\$3,702,925 74
Sinking funds,	246,331 65	389,614 90	143,283 25
Miscellaneous physical property,	1,330,691 72	1,253,117 35	77,574 37*
Investments,	2,969,600 23	4,026,664 66	1,057,064 43
Current assets,	13,228,230 16	11,589,062 06	1,639,178 11*
Deferred assets,	1,040,599 03	1,054,309 85	13,710 82
Unadjusted debits,	3,800,655 93	7,339,930 10	3,439,274 17
Grand total,	\$329,308,549 08	\$235,928,055 01	\$6,619,505 93

* Decrease.

Liabilities, December 31, 1916 and 1917.

LIABILITIES.	1916.	1917.	Increase.
Capital stock, common,	\$91,037,875 00	\$87,686,275 00	\$3,351,600 00*
Capital stock, preferred,	11,543,500 00	15,673,500 00	4,130,000 00
Total capital stock,	\$102,581,375 00	\$103,359,775 00	\$778,400 00
Stock liability for conversion,	-	100,000 00	100,000 00
Premium on capital stock,	6,659,611 54	6,675,651 04	16,039 50
Funded debt,	91,761,700 00	92,123,200 00	361,500 00
Non-negotiable debt to affiliated companies,	1,241,215 44	1,224,915 38	16,300 06*
Current liabilities,	20,451,711 00	22,379,364 33	1,927,653 33
Deferred liabilities,	431,697 19	412,849 84	18,847 35*
Unadjusted credits,	5,673,592 65	8,665,606 67	3,192,016 02
Appropriated surplus,	269,345 57	306,041 89	36,696 32
Profit and loss,	238,300 69	480,648 86	242,348 17
Grand total,	\$229,308,549 08	\$235,928,055 01	\$6,619,506 93

* Decrease.

The gross assets, the gross liabilities (including capital stock) and the surplus of the companies, with the percentage of surplus to capital stock, at the end of each of the last nine years and of the nine months ending June 30, 1910, are shown in the following table:—

Gross Assets, Liabilities and Surplus, 1908-1917.

YEARS.	Gross Assets.	Gross Liabilities.	Surplus.	Percent- age of Surplus to Capital.
1908,	\$170,154,909	\$162,034,970	\$8,119,939 ¹	10.06
1909,	177,745,988	168,628,151	9,117,837 ¹	11.39
1910, ²	185,456,188	175,470,439	9,985,699 ¹	11.84
1911,	191,791,506	180,368,094	11,423,414 ¹	13.19
1912,	205,065,129	193,660,069	11,405,060 ¹	12.89
1913,	216,022,752	205,149,783	10,872,969 ¹	11.12
1914,	217,960,080	206,974,502	10,985,578 ¹	11.19
1915,	221,543,802	221,418,356	125,446 ³	.12
1916, ⁴	229,308,549	229,070,248	238,301	.23
1917, ⁴	235,928,055	235,447,406	480,649	.66

¹ Includes "premiums on sales of stock and bonds" and "sinking and other special funds."
² For nine months ending June 30, 1910.

³ The apparent discrepancy in the surplus for the year 1915 is due to a change in the classification of accounts. Premiums on sales of stock and bonds and sinking and other special funds now appear in separate accounts.

⁴ Year ending December 31.

CAPITAL STOCK AND DIVIDENDS.

The aggregate capital stock of the fifty-three companies, December 31, 1917, was \$103,359,775, — an increase of \$778,400 over the preceding year.

Dividends.

The total amount of dividends declared the past year was \$3,251,873.24.

Thirty corporations declared dividends varying in rate from $1\frac{1}{2}$ to 10 per cent; the following table gives the name of the dividend paying companies, the rate per cent, and amount of dividend declared:—

NAME OF COMPANY.	RATE PER CENT.		Amount of Dividend Declared.
	Common.	Preferred.	
Bay State,	—	3	\$104,529 00
Boston & Chelsea,	6	—	7,260 00
Boston Elevated,	$3\frac{1}{2}$	—	835,779 00
Boston & Revere Electric,	5	—	2,500 00
Boston & Worcester,	$2\frac{1}{2}$	6	78,657 00
Connecticut Valley,	—	6	7,200 00
East Middlesex,	10	—	29,770 00
East Taunton,	$5\frac{3}{4}$	—	5,623 50
Fitchburg & Leominster,	6	—	27,000 00
Holyoke,	3	—	40,260 00
Linwood,	8	—	960 00
Lowell & Fitchburg,	6	—	16,500 00
Medway & Dedham,	$4\frac{1}{2}$	—	2,925 00
Middlesex & Boston,	$1\frac{1}{2}$	—	29,895 00
Milford & Uxbridge,	—	6	6,000 00
Mount Tom,	6	—	6,000 00
Nahant & Lynn,	4	—	4,000 00
Newtonville & Watertown,	$7\frac{3}{4}$ ¹⁰⁰	—	3,600 00
Northampton,	5	—	42,500 00
North End,	—	—	4,125 00
Northern Massachusetts,	$3\frac{3}{4}$	$1\frac{1}{2}$	2,250 00
Shelburne Falls & Colrain,	5	—	2,500 00
Somerville,	6	—	9,180 00
Union,	8	—	130,000 00
Webster & Dudley,	5	—	2,500 00
West End,	7	8	1,473,625 00
Winnimmet,	6	—	3,000 00
Worcester Consolidated,	5	$6\frac{1}{4}$	370,175 00
Worcester & Shrewsbury Railroad,	$7\frac{3}{4}$ ¹⁰⁰	—	2,649 74
Worcester & Shrewsbury Street Railway,	5	—	1,000 00
			\$3,251,873 24

Capital Stock, Net Income and Dividends, 1908-1917.

YEARS.	Capital Stock.	Net Divisible Income.	Dividends Declared.	Percentage on Total Capital Stock.
1908,	\$74,737,505	\$4,094,977	\$3,950,965	5.29
1909,	80,728,890	4,527,547	4,120,223	5.10
1910, ¹	84,345,065	2,600,375	2,767,315	3.28
1911,	86,639,175	5,548,479	4,788,907	5.52
1912,	89,118,975	4,975,801	4,916,371	5.52
1913,	97,284,375	4,901,291	5,081,728	5.17
1914,	98,194,775	5,208,407	5,109,369	5.20
1915,	99,031,275	4,564,342	4,612,020	4.65
1916, ²	102,581,375	4,504,681	4,082,536	3.98
1917, ²	103,359,775	3,020,926	3,251,873	3.14

¹ For nine months ending June 30, 1910.² Year ending December 31.

FUNDED AND FLOATING DEBT.

The funded debt of the companies, December 31, 1917, was \$92,123,200, — an increase of \$361,500 over the preceding year.

Floating Debt.

The total unfunded debt was \$32,882,738.22, — an increase of \$5,084,521.94.

The gross debt, funded and unfunded, was \$125,005,938.22, — an increase of \$5,446,021.94.

The net debt (the gross debt less \$11,589,052.05 of cash and current assets) was \$113,416,886.17, — an increase of \$7,085,200.05.

The funded debt, unfunded debt, gross debt, cash and current assets, and net debt, at the end of each of the last nine years and of the nine months ending June 30, 1910, are shown in the following table: —

Funded, Unfunded, Gross and Net Debt, 1908-1917.

YEARS.	Funded Debt.	Unfunded Debt.	Gross Debt.	Cash and Current Assets.	Net Debt. ¹
1908,	\$66,348,500	\$20,948,955	\$87,297,455	\$8,170,633	\$79,126,782
1909,	68,078,000	19,821,271	87,899,271	11,959,339	75,939,932
1910, ²	67,762,000	23,363,424	91,125,424	8,785,108	82,340,316
1911,	71,508,700	22,220,219	93,728,919	8,231,929	85,496,990
1912,	77,706,700	20,834,394	104,541,094	7,939,172	96,601,922
1913,	86,615,700	22,249,708	107,865,408	10,795,490	97,069,918
1914,	86,575,700	22,204,027	108,779,727	8,189,039	100,590,688
1915,	87,717,700	27,810,729	115,528,429	11,153,332	104,375,077
1916, ²	91,761,700	27,798,216	119,559,916	13,228,230	106,331,686
1917, ²	92,123,200	32,882,738	125,005,938	11,589,052	113,416,886

¹ Gross debt less cash and current assets.² For nine months ending June 30, 1910.² Year ending December 31.

Capital Investment.

The total capital investment (capital stock, premiums and funded debt) of the street railway companies of the state on December 31, 1917, was \$202,258,626.04, — an increase of \$1,255,939.50 for the year.

COST AND CAPITAL INVESTMENT PER MILE.

The following table shows the cost per mile of main track (including the cost but not the length of side track) of road, equipment, land and buildings and other property of each of the fifty-three street railways for the year ending December 31, 1917: —

Cost and Capitalization per Mile of Main Track (including First and Second Tracks).

RAILWAY COMPANIES.	Road.	Equip- ment.	Land and Build- ings.	Other Prop- erty.	Total.	Capital- ization per Mile of Main Track.
Bay State,	\$31,735	\$10,446	\$10,961	\$445	\$53,587	\$56,875
Berkshire,	54,012	5,775	14,455	391	74,633	50,940
Blue Hill,	22,551	7,260	5,846	—	35,657	29,780
Boston & Chelsea,	27,689	—	—	—	27,689	27,689
Boston Elevated,	800,615	102,990	300,429	5,152	1,269,186	1,243,910
Boston & Revere Electric,	19,528	2,624	6,650	—	28,802	26,455
Boston & Worcester,	43,167	9,952	12,109	—	65,228	62,993
Bristol & Norfolk,	19,942	3,618	1,076	1,621	26,257	27,441
Brookton & Plymouth,	17,763	5,416	10,351	1,376	34,906	30,163
Concord, Maynard & Hudson,	18,339	5,049	6,565	—	29,953	26,102
Connecticut Valley,	20,974	5,199	2,692	100	28,965	26,746
Conway Electric,	12,648	2,930	23,824	—	39,402	33,841
East Middlesex,	17,806	5,276	3,083	11	26,124	26,755
East Taunton,	14,047	2,936	1,081	—	18,064	13,569
Fitchburg & Leominster,	23,229	7,016	7,845	2,991	41,081	21,778
Holyoke,	20,517	10,804	14,127	1,196	46,644	42,750
Interstate Consolidated,	19,975	30	2,674	—	22,679	11,411
Linwood,	16,388	45,373	—	—	61,761	16,000
Lowell & Fitchburg,	31,273	3,762	1,842	—	36,877	31,052
Martha's Vineyard,	4,655	11,512	4,553	—	20,720	7,272
Massachusetts Northeastern,	19,912	6,061	3,193	1,421	30,587	27,349

Cost and Capitalization per Mile of Main Track, etc. — Concluded.

RAILWAY COMPANIES.	Road.	Equip- ment.	Land and Build- ings.	Other Prop- erty.	Total.	Capital- ization per Mile of Main Track.
Medway & Dedham, . . .	\$2,391	\$590	\$235	-	\$3,216	\$3,221
Middlesex & Boston, . . .	23,247	10,159	7,107	-	40,513	32,016
Milford, Attleborough & Woon- socket.	14,200	3,815	3,367	\$1,004	22,386	21,549
Milford & Uxbridge, . . .	17,966	6,809	6,865	874	32,514	30,319
Mount Tom, . . .	64,485	5,444	39,983	-	110,111	111,111
Nahant & Lynn, . . .	32,685	9,404	4,928	-	47,017	31,066
New Bedford & Onset, . . .	18,638	3,026	5,174	1,057	27,895	28,897
Newtonville & Watertown, . .	30,899	-	-	-	30,899	14,349
Norfolk & Bristol, . . .	14,535	4,559	4,962	-	24,056	19,525
Northampton, . . .	18,656	9,557	8,261	101	36,575	35,308
North End, . . .	20,116	10,281	2,738	-	33,135	22,022
Northern Massachusetts, . . .	18,106	5,328	2,944	1,084	27,462	22,271
Norton, Taunton & Attleboro, .	10,349	1,804	1,570	-	13,223	6,586
Norwood, Canton & Sharon, . .	8,097	1,701	654	-	10,452	10,291
Oak Bluffs, . . .	7,841	-	-	40	7,881	9,506
Plymouth & Sandwich, . . .	21,002	772	1,174	77	23,025	8,588
Point Shirley, . . .	11,083	3,877	2,458	-	17,418	20,533
Shelburne Falls & Colrain, . .	15,477	3,230	4,727	102	23,536	20,964
Somerville, . . .	19,666	-	-	-	19,666	19,666
Springfield, . . .	28,082	9,293	9,310	284	46,919	41,053
Swansea & Seekonk, . . .	6,805	1,884	1,718	-	10,307	9,911
Taunton & Pawtucket, . . .	12,170	4,925	3,308	-	20,398	18,339
Union, . . .	25,045	13,778	22,413	4,204	65,440	45,393
Ware & Brookfield, . . .	12,647	2,254	1,943	-	16,844	20,675
Webster & Dudley, . . .	24,025	2,429	1,512	-	27,966	14,961
West End, . . .	39,356	36,612	33,168	-	109,136	112,643
Winnisimmet, . . .	24,038	-	-	24	24,062	24,038
Worcester Consolidated, . . .	28,276	12,440	13,525	311	54,552	49,475
Worcester & Shrewsbury Rail- road.	26,223	19,523	-	-	45,746	21,787
Worcester & Shrewsbury Street Railway.	27,529	19,530	-	-	47,059	47,059
Worcester & Warren, . . .	6,431	651	1,306	1,310	9,698	9,100
Worcester & Webster, . . .	17,822	5,904	8,736	-	32,362	19,544
Average, 53 railways, . . .	\$40,770	\$13,672	\$17,734	\$554	\$72,730	\$69,963
Average, excluding Boston Ele- vated.	\$29,340	\$12,329	\$12,579	\$485	\$54,733	\$52,295

The average cost of the street railways of the state, per mile of main track (including the cost but not the length of side track), as returned by the companies December 31, 1917, was \$40,769.87 for construction; \$13,672.42 for equipment; and \$18,287.52 for lands, buildings (including power plants), parks and other permanent property, — making a total average cost of \$72,729.81 per mile of main track.

The following table gives the average cost, classified as above, and also the average capital investment (amount of outstanding capital stock, premiums and funded debt), per mile of main track, as returned by all of the companies at the end of each of the last nine years and of the nine months ending June 30, 1910: —

Cost and Capital Investment per Mile of Main Track, 1908-1917.

YEARS.	Construc- tion. ¹	Equip- ment.	Other Permanent Property. ¹	Total Cost per Mile.	Capital Invest- ment per Mile.
1908.	\$31,005	\$11,103	\$15,569	\$57,677	\$52,745
1909.	31,747	11,076	15,757	58,580	55,409
1910. ²	32,484	11,654	17,594	61,732	56,279
1911.	36,216	11,760	16,250	64,226	58,126
1912.	37,350	12,287	18,966	68,503	60,793
1913.	37,294	12,270	19,217	68,881	63,872
1914.	37,882	13,112	19,652	70,646	64,534
1915.	39,895	13,370	17,639	70,904	66,960
1916. ³	40,240	13,437	17,998	71,675	69,642
1917. ³	40,770	13,672	18,288	72,730	69,953

¹ Chiefly lands, parks, buildings and power plants.

² For nine months ending June 30, 1910.

³ Year ending December 31.

INCOME AND EXPENDITURES.

The total income of the companies from all sources for the year ending December 31, 1917, was \$47,647,313.52, and the total expenditures (including dividends declared) for the same period were \$47,878,260.61, — making a net deficit of \$230,-947.09 to be deducted from the surplus of previous years.

The sources of total income, and the amount derived from each source as compared with 1916, are shown in the following table: —

Total Income, December 31, 1916 and 1917.

INCOME.	1916.	1917.	Increase.
Total operating revenues,	\$43,150,200 64	\$44,781,773 48	\$1,631,572 84
Net revenue from auxiliary operations,	140,691 31	158,215 76	17,524 45
Income from lease of road,	2,511,871 36	2,535,888 58	24,017 22
Miscellaneous non-operating income,	216,556 82	171,435 70	45,121 12*
Gross income,	\$46,019,320 13	\$47,647,313 52	\$1,627,993 39

* Decrease.

The items of total expenditure, with the increase and decrease in each item over the previous year, are shown in the following table:—

Total Expenditures, December 31, 1916 and 1917.

EXPENDITURES.	1916.	1917.	Increase.
Total operating expenses,	\$30,753,332 82	\$33,816,895 43	\$3,063,562 61
Taxes,	2,406,004 13	2,306,802 96	199,201 17*
Rents for leased roads,	2,873,020 31	2,960,951 15	87,930 84
Interest on debt and loans,	4,621,669 81	4,749,297 63	127,627 82
Amortisation of discount on funded debt,	33,329 64	46,527 45	13,197 81
Maintenance of organisation,	9,388 06	9,878 64	490 58
Miscellaneous debits,	817,894 81	836,034 11	18,139 30
Dividends declared,	4,082,535 74	3,251,873 24	830,662 50*
Total expenditures,	\$45,597,175 32	\$47,878,290 61	\$2,281,065 29
Surplus for the year,	\$22,144 81	\$230,947 09†	\$653,091 90*

* Decrease.

† Deficit.

EARNINGS AND EXPENSES OF OPERATION.

The gross earnings and expenses of operation the last year are classified and compared with those of the previous year in the following table:—

Operating Revenues and Expenses December 31, 1916 and 1917.

REVENUES AND EXPENSES.	1916.	1917.	Increase.
Passenger revenue,	\$40,905,355 79	\$42,418,817 58	\$1,513,461 79
Parlor and special car revenue,	123,644 28	108,530 35	15,113 93*
Mail,	57,428 34	43,030 02	14,398 32*
Express, baggage and freight,	1,001,013 77	1,096,019 84	95,006 07
Milk,	22,569 87	21,392 63	1,177 24*
Miscellaneous transportation revenue,	18,499 37	18,615 81	116 44
Total revenue from operation other than transportation,	1,021,689 22	1,075,367 25	53,678 03
Total operating revenues,	\$43,150,200 64	\$44,781,773 48	\$1,631,572 84
Operating expenses,	30,753,332 82	33,816,895 43	3,063,562 61
Net operating revenue,	\$12,396,867 82	\$10,964,878 05	\$1,431,989 77*

* Decrease.

The following table gives the gross earnings from operation, the operating expenses, the ratio of operating expenses to gross earnings, and the net earnings for each of the last nine years and for the nine months ending June 30, 1910:—

Ratio of Operating Expenses to Gross Earnings, 1908-1917.

YEARS.	Gross Earnings from Operation.	Operating Expenses.	Ratio of Operating Expenses to Operating Revenues.	Net Earnings.
1908,	\$30,780,962	\$20,541,577	66.78	\$10,239,385
1909,	31,956,007	20,915,728	65.45	11,040,279
1910, ¹	24,032,236	16,191,893	67.38	7,840,343
1911,	35,036,997	22,895,804	65.34	12,141,193
1912,	36,080,237	24,363,908	67.53	11,716,334
1913,	38,125,693	25,729,054	67.48	12,396,639
1914,	39,703,706	26,665,220	67.16	13,038,486
1915,	39,537,443	27,194,899	68.78	12,342,544
1916, ²	43,150,201	30,753,333	71.27	12,396,868
1917, ²	44,781,773	33,816,895	75.51	10,964,878

¹ For nine months ending June 30, 1910.

² Year ending December 31.

The following table gives the ratio of operating expenses (divided into the general operating accounts) to the operating revenues for the year ending December 31, 1917:—

RAILWAY COMPANIES.	Way and Structures (Per Cent).	Equipment (Per Cent).	Power (Per Cent).	Transportation (Per Cent).	Traffic (Per Cent).	General and Miscellaneous (Per Cent).	Total (Per Cent).
Bay State,	7.91	11.80	14.19	33.80	.37	12.14	80.21
Berkshire,	14.48	9.26	31.27	27.64	.06	7.22	89.93
Blue Hill,	10.09	7.09	28.64	27.81	.04	15.28	88.95
Boston Elevated,	9.01	8.16	8.82	33.05	.03	9.88	68.55
Boston & Worcester,	6.55	11.31	16.13	24.82	.85	9.55	69.21
Bristol & Norfolk,	5.71	19.45	31.40	33.71	5.65	7.00	102.92
Brookton & Plymouth,	11.52	13.38	30.76	28.72	.15†	11.39	95.62
Concord, Maynard & Hudson,	7.10	15.32	33.52	21.86	.08	11.82	89.70
Connecticut Valley,	7.69	7.97	26.58	22.48	.77	11.34	76.83
Conway Electric,	12.98	15.92	17.94	45.81	-	3.73	96.38

† Credit.

RAILWAY COMPANIES.	Way and Structures (Per Cent).	Equipment (Per Cent).	Power (Per Cent).	Transportation (Per Cent).	Traffic (Per Cent).	General and Miscellaneous (Per Cent).	Total (Per Cent).
East Taunton,	15.44	9.25	22.80	18.58	-	10.94	77.01
Fitchburg & Leominster, . . .	11.22	8.64	17.54	24.73	.75†	11.70	73.08
Holyoke,	12.18	9.83	16.76	28.42	3.06†	13.67	77.78
Interstate Consolidated, . . .	8.86	.06	22.70	34.58	.21	21.81	88.22
Linwood,	1.53	10.56	13.54	35.44	-	13.59	74.66
Lowell & Fitchburg,	5.42	8.05	19.07	18.63	.11	15.38	66.66
Massachusetts Northeastern, . .	12.00	9.20	27.06	25.20	.44	11.38	85.28
Middlesex & Boston,	9.61	8.40	17.83	32.52	.21	10.69	79.26
Milford, Attleborough & Woonsocket.	10.17	10.76	25.79	33.80	.25	10.38	90.96
Milford & Uxbridge,	10.28	7.21	25.28	29.86	.80	6.93	80.36
Nahant & Lynn,	5.98	6.81	13.09	33.93	.94	35.52	96.27
New Bedford & Onset,	12.36	8.40	33.83	19.07	.24	6.18	80.08
Norfolk & Bristol,	8.26	12.83	25.77	28.53	.02	13.84	89.25
Northampton,	10.03	10.32	23.34	25.00	-	10.06	78.75
Northern Massachusetts,	6.08	8.95	25.85	26.21	.06†	12.22	79.26
Norton, Taunton and Attleboro, .	17.06	8.43	33.55	31.41	-	7.30	97.75
Norton & Taunton (receiver), . .	15.47	9.25	26.67	28.33	-	15.74	95.46
Norwood, Canton & Sharon, . . .	16.83	17.40	28.85	43.54	.11	11.06	117.79
Oak Bluffs,	16.10	9.75	22.97	26.25	-	37.19	112.26
Plymouth & Sandwich,	3.98	14.61	29.06	27.20	.81	14.52	90.18
Point Shirley,	3.19	-	43.65	48.94	-	18.11	113.89
Providence & Fall River,	10.49	23.05	19.22	22.14	-	18.67	93.57
Shelburne Falls & Colrain, . . .	14.75	4.76	19.18	21.30	-	12.73	72.72
Springfield,	8.12	11.26	22.94	37.22	.20	15.08	94.82
Swansea & Seekonk,	31.16	42.76	40.11	66.82	-	28.69	209.54
Bristol County property (receiver),	8.42	24.90	45.12	20.21	4.30	11.02	113.97
Union,	12.21	5.86	15.09	30.46	.69	10.91	75.22
Ware & Brookfield,	32.81	34.61	26.33	36.16	-	17.80	147.71
Worcester Consolidated,	9.80	10.52	13.10	29.16	.36	9.53	72.47
Worcester & Warren,	10.11	14.69	48.67	28.65	4.94	11.29	118.35
Average,	9.10	9.54	13.65	32.17	.16	10.89	75.51

† Credit.

The following table gives for each of the last nine years and for the nine months ending June 30, 1910, the average gross earnings, operating expenses, and net earnings from operation per total mile of main track owned:—

*Gross and Net Earnings from Operation per Mile of Main Track Owned,
1908-1917.*

YEARS.	AVERAGE PER MILE OF TRACK OWNED.		
	Gross Earnings.	Expenses of Operation.	Net Earnings.
1908.	\$11,507	\$7,679	\$3,828
1909.	11,899	7,788	4,111
1910. ¹	8,892	5,991	2,901
1911.	12,877	8,415	4,462
1912.	13,148	8,878	4,270
1913.	13,461	9,084	4,377
1914.	14,017	9,414	4,603
1915.	13,839	9,519	4,320
1916. ²	14,950	10,655	4,295
1917. ²	15,488	11,096	3,792

¹ For nine months ending June 30, 1910.² Year ending December 31.

The following table gives the cost of operating expenses (divided into the general operating accounts) per car mile. The cost of power per car mile is based on the actual cost of power less power sold.

RAILWAY COMPANIES.	Way and Structures (Cents).	Equipment (Cents).	Power (Cents).	Transportation (Cents).	Traffic (Cents).	General and Miscellaneous (Cents).	Total (Cents).
Bay State.	2.62	3.91	4.60	11.20	.12	4.02	26.47
Berkshire.	4.20	2.68	9.05	8.01	.02	2.09	26.05
Blue Hill.	2.59	1.82	6.41	7.13	.01	3.92	21.88
Boston Elevated.	2.99	2.71	2.74	10.97	.01	3.27	22.69
Boston & Worcester.	2.75	4.75	6.78	10.43	.35	4.01	29.07
Bristol & Norfolk.	1.10	3.76	6.06	6.51	1.09	1.35	19.87
Brockton & Plymouth.	3.02	3.51	7.65	7.52	.04†	2.98	24.64
Concord, Maynard & Hudson.	2.14	4.62	10.11	6.59	.02	3.57	27.05
Connecticut Valley.	2.45	2.54	8.47	7.16	.24	3.62	24.48
Conway Electric.	2.92	3.58	4.04	10.30	-	.84	21.68
East Taunton.	4.47	2.67	6.60	5.37	-	3.16	22.27

† Credit.

RAILWAY COMPANIES.	Way and Structures (Cents).	Equipment (Cents).	Power (Cents).	Transportation (Cents).	Traffic (Cents).	General and Miscellaneous (Cents).	Total (Cents).
Fitchburg & Leominster, . . .	3.90	3.00	6.04	8.58	.26†	4.06	25.32
Holyoke,	3.79	3.06	5.22	8.85	.96†	4.25	24.31
Interstate Consolidated, . . .	2.35	.02	6.01	9.16	.05	5.78	23.37
Linwood, . . . . .	.54	3.76	4.82	12.61	-	4.84	26.57
Lowell & Fitchburg,	1.92	2.86	6.76	6.61	.04	5.45	23.64
Massachusetts Northeastern, . .	3.72	2.85	7.97	7.81	.14	3.53	26.02
Middlesex & Boston,	2.74	2.40	4.98	9.29	.06	3.06	22.53
Milford, Attleborough & Woonsocket,	2.54	2.69	6.46	8.41	.06	2.60	22.76
Milford & Uxbridge,	2.69	1.88	5.74	7.80	.21	1.81	20.13
Nahant & Lynn,	2.09	2.39	4.59	11.88	.33	12.44	33.72
New Bedford & Onset,	4.78	3.25	4.31	7.37	.09	2.39	22.19
Norfolk & Bristol,	1.84	2.85	5.74	6.35	-	3.08	19.86
Northampton,	2.92	3.00	6.80	7.28	-	2.98	22.93
Northern Massachusetts, . . .	1.88	2.77	7.99	8.10	.02†	3.78	24.50
Norton, Taunton & Attleboro, .	3.39	1.67	6.66	6.23	-	1.45	19.40
Norton & Taunton (receiver), .	3.06	1.83	5.27	5.00	-	3.11	18.87
Norwood, Canton & Sharon, . .	2.84	2.94	4.88	7.36	.02	1.87	19.91
Oak Bluffs,	3.46	2.10	4.94	5.64	-	8.00	24.14
Plymouth & Sandwich, . . . .	.71	2.61	5.18	4.85	.14	2.59	16.08
Point Shirley, . . . . .	.92	-	12.61	14.13	-	5.23	32.89
Providence & Fall River, . . .	3.46	7.59	6.33	7.29	-	6.15	30.82
Shelburne Falls & Colrain, . . .	6.52	2.11	7.93	9.42	-	5.63	31.61
Springfield,	2.34	3.24	6.51	10.70	.06	4.33	27.18
Swansea & Seekonk,	6.14	8.42	7.90	13.16	-	5.65	41.27
Bristol County property (receiver),	1.83	5.43	9.84	4.41	.94	2.40	24.85
Union,	4.66	2.24	5.70	11.61	.26	4.16	28.63
Ware & Brookfield,	6.39	6.73	5.12	7.04	-	3.46	28.74
Worcester Consolidated,	3.38	3.62	4.45	10.05	.12	3.28	24.90
Worcester & Warren,	1.81	2.63	8.71	5.12	.88	2.02	21.17
Average,	2.96	3.11	4.32	10.48	.05	3.55	24.47

† Credit.

The following table gives the operating revenue per mile of all track operated and the amount invested per dollar of operating revenue:—

RAILWAY COMPANIES.	Operating Revenues per Mile of Track Operated (All Track).	Amount Invested per Dollar of Operating Revenue.
Bay State,	\$11,076 80	\$4 43
Berkshire,	6,108 17	9 68
Blue Hill,	4,425 68	7 46
Boston Elevated,	37,525 43	4 85
Boston & Worcester,	10,274 72	6 11
Bristol & Norfolk,	2,311 11	10 50
Brockton & Plymouth,	5,015 61	6 20
Concord, Maynard & Hudson,	4,147 53	6 79
Connecticut Valley,	5,351 04	5 14
Conway Electric,	1,424 41	25 15
East Taunton,	4,232 62	3 93
Fitchburg & Leominster,	9,688 74	3 99
Holyoke,	9,917 49	4 43
Interstate Consolidated,	7,469 78	2 81
Linwood,	10,433 84	1 95
Lowell & Fitchburg,	5,430 81	6 57
Massachusetts Northeastern,	6,430 68	4 42
Middlesex & Boston,	8,278 20	4 51
Milford, Attleborough & Woonsocket,	3,606 80	5 91
Milford & Uxbridge,	5,550 13	3 76
Nahant & Lynn,	6,259 15	7 12
New Bedford & Onset,	4,331 91	6 00
Norfolk & Bristol,	4,591 85	4 79
Northampton,	8,211 83	3 95
Northern Massachusetts,	4,941 95	5 21
Norton, Taunton & Attleboro,	3,334 68	3 71
Norwood, Canton & Sharon,	1,807 48	5 59
Oak Bluffs,	834 06	14 44
Plymouth & Sandwich,	628 60	35 89
Point Shirley,	7,464 83	2 33
Shelburne Falls & Colrain,	3,816 91	5 77
Springfield,	13,017 03	3 32
Swansea & Seekonk,	4,085 88	2 33
Taunton & Pawtucket (receiver),	2,712 22	6 46
Union,	18,015 33	3 02
Ware & Brookfield,	2,790 84	5 83
Worcester Consolidated,	11,057 43	4 23
Worcester & Warren,	2,204 48	4 29
Average,	\$13,941 28	\$4 70

The following table gives the average fare per revenue passenger, the operating revenue and operating expenses per car mile and per car hour, and the net operating revenue per car mile and per car hour:—

RAILWAY COMPANIES.	Average Fare per Revenue Passenger (Cents).	Operating Revenue per Car Mile (Cents).	Operating Expenses per Car Mile (Cents).	Net Operating Revenue per Car Mile (Cents).	Operating Revenue per Car Hour (Dollars).	Operating Expenses per Car Hour (Dollars).	Net Operating Revenue per Car Hour (Dollars).
Bay State,	5.28	33.13	26.57	6.56	2.76	2.21	.55
Berkshire,	4.91	28.97	26.05	2.92	3.32	2.99	.33
Blue Hill,	5.06	25.65	22.81	2.84	2.64	2.35	.29
Boston Elevated,	4.99	33.19	22.78	10.41	3.69	2.53	1.16
Boston & Worcester,	5.38	42.00	29.07	12.93	6.30	4.36	1.94
Bristol & Norfolk,	5.97	19.31	19.87	.56*	2.30	2.37	.07*
Brockton & Plymouth,	5.82	26.19	25.04	1.15	2.51	2.40	.11
Concord, Maynard & Hudson,	5.88	30.15	27.05	3.10	3.40	3.05	.35
Connecticut Valley,	5.35	31.86	24.43	7.33	3.44	2.64	.80
Conway Electric,	5.00	22.49	21.68	.81	2.01	1.94	.07
East Taunton,	4.74	28.92	22.27	6.65	2.97	2.29	.68
Fitchburg & Leominster,	4.90	34.71	25.37	9.34	3.16	2.31	.85
Holyoke,	4.98	31.13	24.21	6.92	3.00	2.33	.67
Interstate Consolidated,	4.34	26.49	23.37	3.12	2.87	2.53	.34
Linwood,	3.36	35.59	26.57	9.02	2.38	1.78	.60
Lowell & Fitchburg,	5.05	35.46	23.64	11.82	4.50	3.00	1.50
Massachusetts Northeastern,	5.59	30.99	26.43	4.56	3.59	3.06	.53
Middlesex & Boston,	5.92	28.57	22.65	5.92	2.79	2.21	.58
Milford, Attleborough & Woonsocket,	4.95	25.02	22.76	2.26	2.88	2.62	.26
Milford & Uxbridge,	5.05	26.12	20.99	5.13	2.75	2.21	.54
Nahant & Lynn,	6.78	35.02	33.72	1.30	2.44	2.35	.09
New Bedford & Onset,	5.51	38.67	30.97	7.70	4.98	3.99	.99
Norfolk & Bristol,	5.80	22.25	19.86	2.39	2.25	2.01	.24
Northampton,	4.62	29.12	22.93	6.19	3.13	2.46	.67
Northern Massachusetts,	4.74	30.91	24.50	6.41	2.79	2.30	.59
Norton, Taunton & Attleboro,	5.48	19.85	19.40	.45	2.17	2.12	.05
Norton & Taunton (receiver),	5.15	19.77	18.87	.90	2.10	2.00	.10
Norwood, Canton & Sharon,	5.77	16.90	19.91	3.01*	1.24	1.46	.22*
Oak Bluffs,	5.00	21.50	24.14	2.64*	1.61	1.81	.20*
Plymouth & Sandwich,	5.34	17.83	16.08	1.75	2.16	1.95	.21

* Loss.

RAILWAY COMPANIES.	RAILWAY COMPANIES.						
	Average Fare per Revenue Passenger (Cents).	Operating Revenue per Car Mile (Cents).	Operating Expenses per Car Mile (Cents).	Net Operating Revenue per Car Mile (Cents).	Operating Revenue per Car Hour (Dollars).	Operating Expenses per Car Hour (Dollars).	Net Operating Revenue per Car Hour (Dollars).
Point Shirley,	4.57	23.88	32.89	4.01*	1.38	1.57	.19*
Providence & Fall River,	4.51	32.94	30.82	2.12	4.65	4.35	.30
Shelburne Falls & Colrain,	5.00	44.22	32.16	12.06	4.13	3.00	1.13
Springfield,	4.95	28.76	27.27	1.49	2.58	2.45	.13
Swansea & Seekonk,	5.36	19.69	41.27	21.58*	2.29	4.80	2.51*
Bristol County property (receiver),	4.52	21.80	24.85	3.06*	2.66	3.03	.37*
Union,	4.81	38.12	28.68	9.44	3.19	2.40	.79
Ware & Brookfield,	6.93	19.46	28.74	9.28*	2.22	3.28	1.06*
Worcester Consolidated,	4.93	34.45	24.96	9.49	3.11	2.25	.86
Worcester & Warren,	6.60	17.89	21.17	3.28*	1.70	2.01	.31*
Average,	5.08	32.57	24.59	7.98	3.22	2.43	.79

* Loss.

Gross and Net Earnings from Operation per Car Mile Run and per Passenger Carried, 1908-1917.

YEARS.	AVERAGE PER CAR MILE.			AVERAGE PER PASSENGER.		
	Gross Earnings (Cents).	Expenses of Operation (Cents).	Net Earnings (Cents).	Gross Earnings (Cents).	Expenses of Operation (Cents).	Net Earnings (Cents).
1908,	26.31	17.56	8.75	5.11	3.41	1.70
1909,	27.19	17.80	9.39	5.12	3.35	1.77
1910, ¹	27.39	18.45	8.94	5.12	3.45	1.67
1911,	28.33	18.51	9.82	5.13	3.35	1.78
1912,	28.85	19.48	9.37	5.14	3.47	1.67
1913,	29.19	19.70	9.49	5.16	3.48	1.68
1914,	29.99	20.14	9.85	5.18	3.48	1.70
1915,	29.91	20.57	9.34	5.20	3.58	1.62
1916, ²	31.44	22.41	9.03	5.25	3.74	1.51
1917, ²	32.57	24.59	7.98	5.36	4.05	1.31

¹ For nine months ending June 30, 1910.² Year ending December 31.

The following table gives the number of passengers carried per passenger car mile and per passenger car hour, and the car miles operated per car hour:—

RAILWAY COMPANIES.	Number of Passengers per Passenger Car Mile.	Number of Passengers per Passenger Car Hour.	Number of Car Miles per Car Hour.
Bay State,	6.0	50.9	8.3
Berkshire,	5.7	66.8	11.4
Blue Hill,	4.8	49.7	10.3
Boston Elevated,	6.4	71.5	11.1
Boston & Worcester,	7.1	119.2	15.0
Bristol & Norfolk,	3.2	38.2	11.9
Brockton & Plymouth,	4.3	43.5	9.6
Concord, Maynard & Hudson,	5.0	56.6	11.2
Connecticut Valley,	5.8	64.7	10.8
Conway Electric,	2.2	20.2	8.9
East Taunton,	6.1	62.4	10.2
Fitchburg & Leominster,	6.8	63.2	9.1
Holyoke,	6.2	59.8	9.6
Interstate Consolidated,	5.5	62.5	10.8
Linwood,	10.2	68.8	6.6
Lowell & Fitchburg,	6.8	86.7	12.7
Massachusetts Northeastern,	5.3	62.3	11.5
Middlesex & Boston,	4.6	45.8	9.7
Milford, Attleborough & Woonsocket,	4.9	58.8	11.5
Milford & Uxbridge,	4.4	46.6	10.5
Nahant & Lynn,	5.1	35.9	6.9
New Bedford & Onset,	4.7	63.1	12.9
Norfolk & Bristol,	3.9	39.8	10.1
Northampton,	6.4	69.3	10.7
Northern Massachusetts,	6.2	56.2	9.0
Norton, Taunton & Attleboro,	3.6	39.3	10.8
Norwood, Canton & Sharon,	2.8	21.1	7.3
Oak Bluffs,	4.3	32.2	7.5
Plymouth & Sandwich,	3.2	38.6	12.1
Point Shirley,	6.3	30.2	4.7
Shelburne Falls & Colrain,	3.4	32.1	9.3
Springfield,	5.6	50.9	9.0
Swansea & Seekonk,	4.5	72.3	13.8
Bristol County property (receiver),	4.7	58.3	12.2
Union,	7.3	62.5	8.4
Ware & Brookfield,	2.7	30.8	11.4
Worcester Consolidated,	6.7	61.7	9.0
Worcester & Warren,	2.6	25.5	9.4
Average,	6.1	61.5	9.9

VOLUME OF TRAFFIC.

The total number of passengers carried during the last year as reported by the thirty-eight operating railway companies making returns to this Commission was 834,556,408, — an increase of 12,184,367 passengers over the previous year.

The total number of miles run by street cars during the year was 137,497,390, — an increase of 257,698 miles over the previous year.

The following table gives the total volume of traffic, itemized as above, for each of the last nine years and for the nine months ending June 30, 1910: —

Volume of Traffic, 1908-1917.

YEARS.	Total Passengers Carried.	Average Number per Mile of Main Track Operated.	Total Car Miles Run.
1908,	802,400,874	219,774	116,982,089
1909,	824,532,753	225,887	117,493,499
1910, ¹	409,330,784	169,921	87,712,572
1911,	683,362,717	246,021	123,659,082
1912,	701,798,274	248,698	125,078,724
1913,	738,522,280	253,044	130,588,851
1914,	766,628,535	261,853	132,355,825
1915,	760,464,372	257,558	132,187,596
1916, ²	823,372,041	275,779	137,239,692
1917, ²	834,556,408	277,460	137,497,390

¹ For nine months ending June 30, 1910.² Year ending December 31.

EMPLOYEES AND EQUIPMENT.

The number of persons employed by the street railway companies, and also the number of passenger cars, other cars and plows and electric motors owned, are given in the following table for each of the last nine years and for the nine months ending June 30, 1910: —

Employees and Equipment, 1908-1917.

YEARS.	Employees.	Passenger Cars.	Other Cars and Flows.	Electric Motors.
1908,	17,267	7,618	2,890	16,649
1909,	17,575	7,546	2,834	16,536
1910, ¹	18,839	7,669	2,869	17,896
1911,	21,972	7,821	2,907	17,921
1912,	23,290	8,004	2,929	18,267
1913,	24,136	8,154	2,897	19,622
1914,	23,412	8,364	2,927	20,636
1915,	23,842	8,296	1,899	20,688
1916, ²	22,201	8,203	1,393	20,299
1917, ²	20,804	8,036	1,402	20,845

¹ For nine months ending June 30, 1910.² Year ending December 31.

STREET RAILWAY ACCIDENTS.

The total number of persons injured, in connection with street railway operation, as returned by the companies for the year ending December 31, 1917, was 14,938, of whom 131 received fatal injuries and 14,807 injuries not fatal.

The number of passengers injured was 10,746, of whom 21 were injured fatally.

The injuries to employees were 2,046 in all, 19 of which were fatal.

The number of injuries to travellers and others on the street was 2,146, of which 91 were fatal.

These figures include a very large number of injuries of a trivial character that have been returned by the companies.

In the following table the accidents of the last year as returned are classified as above, and are compared with those of the previous year: —

Summary of Accidents Reported December 31, 1916 and 1917.

KILLED AND INJURED.	KILLED.		INJURED.		TOTALS.	
	1916.	1917.	1916.	1917.	1916.	1917.
Passengers,	64	21	10,391	10,725	10,455	10,746
Employees,	26	19	1,905	2,027	1,931	2,046
Other persons,	57	91	1,867	2,055	1,924	2,146
Totals,	147	131	14,163	14,807	14,310	14,938

The following is a summary of all accidents reported by the street railway companies for the year ending December 31, 1917, whether personal injury or property damage resulted or not, showing the manner in which said accidents occurred:—

Classification of Accidents.

1. Collision with vehicles,	9,847
2. Collision with persons,	1,046
3. Collision with cars,	1,179
4. Derailment of cars,	3,382
5. Split switch, no derailment,	716
6. Boarding cars:	
(a) Open cars,	723
(b) Box cars,	2,001
(c) Semi cars,	499
7. Alighting from cars:	
(a) Open cars,	1,834
(b) Box cars,	2,619
(c) Semi cars,	1,028
8. Fell in or on car,	1,845
9. Injured on running board of open car,	155
10. Electrical troubles (controller or fuse blowout, etc.),	1,509
11. Injured on account of condition of highway (track construction or repairs),	139
12. Injured by falling trolley or span wire,	322
13. Injured by falling side bar,	82
14. Injured by falling window, register, light bulbs, etc.,	1,491
15. Caught in closing doors,	1,700
16. Stealing ride,	78
17. Broken glass,	1,939
18. Equipment,	840
19. Miscellaneous,	5,033
20. Injuries to employees,	3,929
Grand total,	43,936

TABULATED STATEMENT OF INCOME ACCOUNTS FROM THE REPORTS OF STREET RAILWAY COMPANIES,
YEAR ENDING DECEMBER 31, 1917.

	RAILWAY COMPANIES.	Railway Operating Revenue.	Railway Operating Expense.	Net Revenue Railway Operations.	Net Revenue Auxiliary Operations.	Net Operating Revenue.	Taxes assignable to Railway Operations.	Operating Income.
1	Bay State	\$10,127,287 87	\$8,177,808 99	\$1,949,478 88	\$116,404 13	\$2,065,943 01	\$521,791 62	\$1,544,151 39
2	Bay State (receiver),	524,166 05	365,574 22	158,591 83	6,765 45	165,357 28	-	165,357 28
3	Berkshire,	1,058,729 24	932,084 47	106,644 77	34,986 18	141,630 95	59,906 14	81,724 81
4	Blue Hill,	88,469 40	78,690 19	9,779 21	-	9,779 21	2,838 41	6,950 80
5	Boston & Chelsea,	-	-	-	-	-	-	-
6	Boston Elevated,	19,733,875 96	13,547,124 28	6,186,751 68	-	6,186,751 68	884,633 01	5,302,128 67
7	Boston & Revere Electric,	-	-	-	-	-	-	-
8	Boston & Worcester,	855,165 07	591,843 07	263,322 00	-	263,322 00	55,293 45	208,028 55
9	Bristol & Norfolk,	15,484 45	15,936 71	452 26d	-	452 26d	118 13	570 36d
10	Brockton & Plymouth,	124,086 26	118,655 20	5,431 06	-	5,431 06	5,947 15	516 09d
11	Concord, Maynard & Hudson,	78,595 69	70,503 73	8,091 96	-	8,091 96	3,322 52	4,769 44
12	Connecticut Valley,	252,569 20	194,050 13	58,519 07	-	58,519 07	9,128 09	49,380 98
13	Conway Electric,	9,268 67	8,924 03	334 64	-	334 64	920 59	585 95d
14	East Middlesex,	-	-	-	-	-	-	-
15	East Taunton,	48,336 52	37,225 23	11,111 29	-	11,111 29	3,309 26	7,802 03
16	Fitchburg & Leominster,	402,179 80	293,907 85	108,271 95	-	108,271 95	20,836 24	87,435 71
17	Holyoke,	717,133 69	557,818 26	159,315 43	-	159,315 43	43,945 28	115,370 15
18	Interstate Consolidated,	194,438 38	171,533 93	22,904 45	-	22,904 45	6,395 70	16,508 75
19	Linwood,	23,789 16	17,761 15	6,028 01	-	6,028 01	903 80	5,124 21
20	Lowell & Fitchburg,	99,383 93	66,249 85	33,134 08	-	33,134 08	2,132 14	31,001 94
21	Martha's Vineyard,	-	-	-	-	-	-	-
22	Massachusetts Northeastern,	826,471 35	704,837 06	121,634 29	-	121,634 29	31,715 30	89,918 99
23	Medway & Dedham,	-	-	-	-	-	-	-
24	Middlesex & Boston,	1,078,814 83	855,146 97	223,667 86	-	223,667 86	36,827 84	186,840 02
25	Millford, Attleborough & Woonsocket,	108,132 03	96,349 80	9,782 23	-	9,782 23	3,566 09	6,215 54
26	Millford & Uxbridge,	315,091 70	263,235 16	61,856 54	-	61,856 54	12,905 47	48,951 07
27	Mount Tom,	-	-	-	-	-	-	-

37	Nahant & Lynn,	43,490 66	40,918 49	1,581 17	-	1,581 17	2,387 86	806 66d
38	New Bedford & Ouseet,	190,604 23	152,643 31	37,960 91	-	37,960 91	8,383 20	29,627 71
39	Newtownville & Watertown,	-	-	-	-	-	-	-
40	Norfolk & Bristol,	101,158 58	90,280 18	10,878 40	-	10,878 40	3,376 31	7,502 09
41	Northampton,	226,743 23	177,788 81	47,954 41	-	47,954 41	20,920 90	27,033 51
42	North End,	-	-	-	-	-	-	-
43	Northern Massachusetts,	236,422 91	187,378 25	49,044 66	-	49,044 66	9,353 25	39,691 41
44	Norton, Taunton & Attleboro,	45,411 66	44,390 15	1,021 51	-	1,021 51	1,547 21	525 70d
45	Norton & Taunton (receiver),	19,581 32	18,692 39	888 93	-	888 93	-	888 93
46	Norwood, Canton & Sharon,	11,351 02	13,369 32	2,018 30d	-	2,018 30d	-	2,430 91d
47	Oak Bluffs,	4,837 54	5,431 15	593 61d	-	593 61d	412 61	759 47d
48	Plymouth & Sandwich,	10,956 65	9,890 72	1,075 93	-	1,075 93	165 86	866 05
49	Point Shirley,	8,957 80	10,202 08	1,244 28d	-	1,244 28d	309 88	1,307 91d
50	Providence & Fall River,	41,662 05	38,984 12	2,677 93	-	2,677 93	63 63	1,619 59
51	Shelburne Falls & Colrain,	23,359 65	20,625 61	7,734 04	-	7,734 04	1,058 24	6,391 50
52	Somerville,	-	-	-	-	-	1,843 54	-
53	Springfield,	2,495,234 98	2,365,879 32	129,355 66	-	129,355 66	117,144 83	12,210 83
54	Swansea & Seekonk,	2,547 26	5,337 58	2,790 32d	-	2,790 32d	-	2,790 32d
55	Taunton & Pawtucket,	-	-	-	-	-	-	-
56	Bristol County property (receiver),	52,898 41	60,281 59	7,393 18d	-	7,393 18d	1,286 83	8,690 06d
57	Union,	1,155,863 73	869,542 21	286,321 52	-	286,321 52	95,215 77	191,105 75
58	Ware & Brookfield,	32,848 22	48,519 34	15,671 12d	-	15,671 12d	789 02	16,460 14d
59	Webster & Dudley,	-	-	-	-	-	-	-
60	West End,	-	-	-	-	-	-	-
61	Winnisnet,	-	-	-	-	-	-	-
62	Worcester Consolidated,	3,349,075 33	2,427,050 72	922,024 61	-	922,024 61	235,441 69	686,582 92
63	Worcester & Shrewsbury Railroad,	-	-	-	-	-	-	-
64	Worcester & Shrewsbury Street Railway,	-	-	-	-	-	-	-
65	Worcester & Warren,	44,310 02	52,439 81	8,129 70d	-	8,129 70d	1,336 35	9,406 14d
66	Worcester & Webster,	-	-	-	-	-	-	-
Totals,		\$44,781,773 48	\$33,816,895 43	\$10,964,878 05	\$158,215 76	\$11,123,093 81	\$2,206,802 96	\$8,916,290 85

d Deficit.

Income Statement for the Year ending December 31, 1917 — Continued.

	RAILWAY COMPANIES.	Income from Lease of Road.	Miscellaneous Non-operating Income.	Gross Income.	Rent for Leased Roads.	Interest on Funded Debt.	Interest on Unfunded Debt.	Amortisation of Discount on Funded Debt.
1	{ Bay State,	\$36,664 76	\$15,014 32	\$1,595,830 47	\$197,980 17	\$1,050,639 78	\$131,976 39	\$32,449 55
2	{ Bay State (receiver),	1,943 89	798 93	168,100 10	-	-	-	-
3	Berkshire,	-	1,821 56	83,546 37	42,300 00	76,500 00	199,107 50	-
4	Blue Hill,	-	5 06	6,955 86	-	12,500 00	8,771 07	-
5	Boston & Chelsea,	7,560 00	1 20	7,561 20	-	-	-	-
6	Boston Elevated,	823 40	83,707 65	5,396,659 72	2,672,740 98	1,087,041 12	87,531 10	5,826 69
7	Boston & Revere Electric,	5,000 00	56 42	5,056 42	-	2,500 00	-	-
8	Boston & Worcester,	-	463 72	208,492 27	-	113,700 00	-	-
9	Bristol & Norfolk,	-	-	570 38d	-	3,500 00	6,001 74	5,185 00
10	Brockton & Plymouth,	-	230 16	285 93d	-	11,700 00	3,054 86	-
11	Concord, Maynard & Hudson,	380 24	1,239 01	6,388 69	750 00	11,500 00	3,488 87	-
12	Connecticut Valley,	-	6,864 41	86,255 39	-	29,000 00	17,409 80	-
13	Conway Electric,	-	-	585 95d	-	4,650 00	2,017 89	-
14	East Middlesex,	40,654 58	196 32	40,850 90	-	10,000 00	-	-
15	East Taunton,	-	638 16	8,440 19	-	2,250 00	-	-
16	Fitchburg & Leominster,	-	1,372 01	88,807 73	-	19,250 00	40,217 52	-
17	Holyoke,	-	404 48	115,774 63	6,000 00	60,000 00	9,005 91	-
18	Interstate Consolidated,	-	1,258 48	17,767 23	-	-	14,300 00	-
19	Linwood,	-	-	5,124 21	-	-	-	-
20	Lowell & Fitchburg,	-	1,778 58	32,780 52	-	13,750 00	-	-
21	Martha's Vineyard,	2,048 09	-	2,048 09	-	-	-	-
22	Massachusetts Northeastern,	-	24,350 68	114,269 67	-	54,791 67	17,361 37	400 00
23	Medway & Dedham,	3,000 00	15 42	3,015 42	-	-	-	-
24	Middlesex & Boston,	-	696 51	187,506 63	-	86,235 00	63,148 51	2,831 52
25	Milford, Attleborough & Woonsocket,	-	851 95	7,067 49	-	15,000 00	275 00	-
26	Milford & Uxbridge,	-	-	48,951 07	3,000 00	25,000 00	2,916 92	-
	Mount Tom,	6,000 00	217 86	6,217 86	-	-	-	-

27	Nahant & Lynn,	-	-	806 66d	-	-	5,000 00	1,433 32	-
28	New Bedford & Onset,	-	-	29,627 71	-	-	14,000 00	1,015 99	-
29	Newtonville & Watertown,	-	-	8,395 10	-	-	-	2,684 25	-
30	Norfolk & Bristol,	8,318 62	76 48	8,303 63	-	-	10,000 00	2,526 65	-
31	Northampton,	-	803 63	28,030 71	-	-	-	-	-
32	North End,	-	997 20	8,015 90	-	-	3,750 00	16,939 58	-
33	Northern Massachusetts,	8,000 00	15 90	50,675 95	-	-	25,000 00	-	-
34	(Norton, Taunton & Attleboro,	-	10,984 54	525 70d	-	-	-	-	-
35	(Norton & Taunton (receiver),	-	-	888 93	-	-	-	-	-
36	Norwood, Canton & Sharon,	-	-	2,430 91d	-	-	1,500 00	-	-
37	Oak Bluffs,	-	65	753 82d	-	480 00	-	3 00	-
38	Plymouth & Sandwich,	-	-	866 05	-	-	-	7,188 21	-
39	Point Shirley,	-	44 29	1,263 62d	-	-	-	170 00	-
40	Providence & Fall River,	-	-	1,619 59	-	-	6,187 50	3,928 40	-
41	Shelburne Falls & Colrain,	-	-	6,391 50	-	-	4,785 00	94 46	-
42	Somerville,	9,180 00	-	9,180 00	-	-	-	-	-
43	Springfield,	-	2,278 90	14,489 73	-	-	98,250 00	48,931 45	-
44	Swansea & Seekonk,	-	43 89	2,746 43d	-	-	-	-	-
45	(Taunton & Pawtucket,	-	-	-	-	-	-	-	-
46	(Bristol County property (receiver),	-	-	8,680 06d	-	-	-	582 50	-
47	Union,	-	-	191,105 75	-	-	11,250 00	10,551 47	-
48	Ware & Brookfield,	-	-	16,460 14d	-	-	6,750 00	-	-
49	Webster & Dudley,	-	-	14,500 00	-	10,500 00	1,500 00	-	-
50	West End,	14,500 00	190 63	2,373,755 63	-	-	891,440 00	-	-
51	Winnimmet,	2,373,565 00	1 60	3,001 60	-	-	-	-	-
52	Worcester Consolidated,	3,000 00	12,540 60	699,123 52	-	27,250 00	231,359 13	31,036 40	134 69
53	Worcester & Shrewsbury Railroad,	3,750 00	-	3,750 00	-	-	1,100 00	-	-
54	Worcester & Shrewsbury Street Railway,	1,000 00	-	1,000 00	-	-	3,037 49	-	-
55	Worcester & Warren,	-	-	9,466 14d	-	-	7,500 00	540 81	-
56	Worcester & Webster,	10,500 00	1,504 80	12,004 50	-	-	-	-	-
Totals,		\$2,535,988 58	\$171,435 70	\$11,623,615 13	\$2,960,951 15	\$4,014,916 69	\$734,390 94	\$46,527 45	

d Deficit.

Income Statement for the Year ending December 31, 1917 — Concluded.

	RAILWAY COMPANIES.	Maintenance of Organisation.	Miscellaneous Debits.	Total Deductions.	Net Income.	Dividends Declared.	Percentage of Dividends Declared.	Surplus for Year.
1	{ Bay State,	-	86,253 48	\$1,419,249 37	\$176,531 10	\$104,629 00	3 ¹	\$72,052 10
2	{ Bay State (receiver),	-	-	-	168,100 10	-	-	168,100 10
3	Berkshire,	-	-	317,907 50	234,361 13d	-	-	234,361 13d
4	Blue Hill,	-	227 33	21,498 40	14,543 54d	-	-	14,543 54d
5	Boston & Chelsea,	\$300 00	-	300 00	7,261 20	7,260 00	6	1 20
6	Boston Elevated,	-	816,013 97	4,069,153 86	717,505 86	835,779 00	3 ¹ / ₄	118,273 14d
7	Boston & Revere Electric,	-	-	2,500 00	2,556 42	2,500 00	5	56 42
8	Boston & Worcester,	-	-	124,986 74	83,605 53	78,657 00	2 ¹ / ₄ and 6 ¹ / ₄	4,948 53
9	Bristol & Norfolk,	-	-	3,680 00	4,250 38d	-	-	4,250 38d
10	Brockton & Plymouth,	-	177 06	14,931 92	16,217 85d	-	-	16,217 85d
11	Concord, Maynard & Hudson,	-	-	15,738 87	9,350 18d	-	-	9,350 18d
12	Connecticut Valley,	-	-	46,409 80	9,845 59	7,200 00	6 ¹ / ₄	2,645 59
13	Conway Electric,	-	-	6,667 89	7,253 84d	-	-	7,253 84d
14	East Middlesex,	654 58	-	10,654 58	30,196 32	29,770 00	10	426 32
15	East Taunton,	-	-	2,250 00	6,180 19	5,623 50	5 ¹ / ₄	556 69
16	Fitchburg & Leominster,	-	-	69,467 52	29,340 20	27,000 00	6	2,340 20
17	Holyoke,	-	50 00	75,055 91	40,718 72	40,260 00	3	458 72
18	Interstate Consolidated,	-	20	14,300 20	3,467 03	-	-	3,467 03
19	Linwood,	-	-	-	5,124 21	960 00	8	4,164 21
20	Lowell & Fitchburg,	-	25 69	13,775 69	19,004 83	16,500 00	6	2,504 83
21	Martha's Vineyard,	-	-	-	2,048 09	-	-	2,048 09
22	Massachusetts Northeastern,	-	-	72,553 04	41,716 63	-	-	41,716 63
23	Medway & Dedham,	89 58	-	89 58	2,925 84	2,925 84	4 ¹ / ₄	84
24	Middlesex & Boston,	-	971 17	155,886 20	31,620 33	29,805 00	1 ¹ / ₄	1,815 33
25	Millford, Attleborough & Woonsocket,	-	86 91	15,331 81	8,264 32d	-	-	8,264 32d
26	Millford & Uxbridge,	-	-	30,916 92	18,034 15	6,000 00	6 ¹ / ₄	12,034 15
26	Mount Tom,	-	-	-	6,217 86	6,000 00	6	217 86

27	Nahant & Lynn.	-	-	6,423 32	7,280 01d	4,000 00	4	11,280 01d
28	New Bedford & Onset.	-	6,000 00	21,015 99	8,611 72	-	-	8,611 72
29	Newtonville & Watertown.	550 00	1,189 68	4,373 93	4,021 17	3,600 00	7.2	421 17
30	Needham & Bristol.	-	-	10,000 00	1,694 28d	-	-	1,694 28d
31	Northampton.	-	-	2,526 65	25,504 06	42,500 00	5	16,995 94d
32	North End.	66 40	-	3,816 40	4,199 50	4,125 00	3½	74 50
33	Northern Massachusetts.	-	-	41,939 58	8,736 37	2,260 00	1½¹	6,496 37
34	{ Norton, Taunton & Attleboro, Norton & Taunton (receiver), Norwood, Canton & Sharon,	-	3,567 98	3,567 98	4,063 68d	-	-	4,063 68d
35	Oak Bluffs.	-	-	1,500 00	888 93	-	-	888 93
36	Plymouth & Sandwich.	-	-	483 00	3,930 91d	-	-	3,930 91d
37	Point Shirley.	-	-	7,188 21	1,241 82d	-	-	1,241 82d
38	Providence & Fall River.	-	-	170 00	6,323 16d	-	-	6,323 16d
39	Shalburne Falls & Colrain.	-	-	10,115 90	1,433 62d	-	-	1,433 62d
40	Somersville.	-	-	4,879 46	8,496 31d	-	-	8,496 31d
41	Springfield.	-	487 54	147,668 99	1,512 04	2,500 00	5	987 96d
42	Swansea & Seekonk.	-	-	-	9,180 00	9,180 00	6	-
43	{ Taunton & Pawtucket, Bristol County property (receiver), Union,	-	-	-	133,179 26d	-	-	133,179 26d
44	Ware & Brookfield.	-	-	582 50	2,746 43d	-	-	2,746 43d
45	Webster & Dudley.	-	-	21,801 47	9,262 56d	-	-	9,262 56d
46	West End.	-	-	6,750 00	199,304 28	130,000 00	8	39,304 28
47	Winnimmet.	-	-	12,000 00	23,210 14d	-	-	23,210 14d
48	Worcester Consolidated.	8,218 08	-	899,658 08	2,500 00	2,500 00	5	-
49	Worcester & Shrewsbury Railroad.	-	-	-	1,474,097 55	1,473,625 00	7 and 8¹	472 55
50	Worcester & Shrewsbury Street Railway.	-	1,063 20	290,843 42	3,001 60	3,000 00	6	1 60
51	Worcester & Warren.	-	-	1,100 00	408,280 10	370,175 00	5 and 6½¹	38,105 10
52	Worcester & Webster.	-	-	-	2,650 00	2,649 74	7.22	26
53	-	-	-	3,578 30	1,000 00	1,000 00	5	-
54	-	-	-	7,500 00	13,044 44d	-	-	13,044 44d
	Totals.	\$9,878 64	\$536,034 11	\$8,602,688 98	\$3,020,926 15	\$3,251,873 24	3.14	\$230,947 09d

1 Preferred.

d Deficit

TABULATED STATEMENT OF INCOME ACCOUNTS FROM REPORTS OF TELEPHONE COMPANIES, YEAR
ENDING DECEMBER 31, 1917.

TELEPHONE COMPANIES.	Operating Revenue.	Operating Expenses.	Net Operating Revenue.	Non- Operating Revenue.	Gross Income.	Deductions from Income.
American Telephone and Telegraph,	\$33,431,168 83	\$15,249,009 99	\$17,181,258 83	\$36,452,067 63	\$53,633,326 45	\$15,192,220 29
Automatic, New Bedford,	69,768 86	31,714 06	28,053 90	-	28,053 90	14,227 92
Beechmont Independent,	-	-	-	-	-	-
Blandford & Chester,	-	-	-	-	-	-
Columbia & Rensselaer,	19,984 '66	14,736 17	5,248 49	-	5,248 49	-
Crescent,	1,164 00	781 56	382 44	-	382 44	-
Elizabeth Islands,	-	-	-	-	-	240 00
Granby,	2,627 62	2,299 47	328 15	-	328 15	-
Heath,	43,353 98	33,554 45	9,799 48	-	9,799 48	455 01
Heath Local,	913 37	879 55	32 82	-	32 82	-
Highland,	3,799 66	3,255 10	544 56	-	544 56	71 40
Littleton,	338 66	201 91	136 75	-	136 75	-
Massachusetts,	-	-	-	-	-	-
Millers Falls,	2,114 88	1,709 '39	405 44	-	405 44	-
Mixer Brothers,	5,450 75	4,942 06	508 69	-	508 69	90 00
New England Telephone and Telegraph,	22,649,924 99	16,594,697 '55	6,055,227 44	499,779 92	6,555,017 36	2,442,204 11
New England Telephone and Telegraph of Massachusetts,	-	-	-	-	-	-
Northfield Farms,	602 42	292 82	309 60	-	309 60	-
North Orange,	82 21	65 71	26 50	-	26 50	-
Oakham & Coldbrook Springs,	1,843 44	1,621 65	220 79	-	220 79	-
Providence of Massachusetts,	98,452 82	84,641 16	13,811 66	125 85	13,937 51	7,835 07
Richmond,	2,470 63	1,552 07	618 56	-	618 56	-
Southern Massachusetts,	-	-	-	-	-	-
State Line,	142 65	105 99	23 342	-	23 342	-
Taunton,	196 00	199 45	1 452	-	1 452	-
Taghconic,	82 00	99 98	17 982	-	17 982	-
West Stockbridge Mutual,	-	-	-	-	-	-
Total,	\$55,324,462 33	\$32,027,610 99	\$23,296,851 33	\$36,561,973 39	\$60,248,824 72	\$17,627,333 80

d Deduct.

Tabulated Statement of Income Accounts from Reports of Telephone Companies, Year ending December 31, 1917 — Concluded.

TELEPHONE COMPANIES.		Net Income.	Appropriations of Income.	Dividend Appropriations.	Total Appropriations of Income.	Surplus for the Year.
American Telephone and Telegraph, Automatic, New Bedford, . . . . .	.	\$38,471,106 16	\$2,500,000 00	\$32,481,613 76	\$32,481,613 76	\$3,489,492 40
Beechmont Independent, . . . . .	.	13,826 98	-	16,500 00	16,500 00	2,974 02d
Blandford & Chester, . . . . .	.	-	-	-	-	-
Columbia & Rensselaer, . . . . .	.	6,248 49	-	2,100 00	2,100 00	3,148 49
Crescent, . . . . .	.	142 44	-	120 00	120 00	23 44
Elizabeth Islands, . . . . .	.	-	-	-	-	-
Granby, . . . . .	.	328 15	-	-	-	-
Heath, . . . . .	.	9,294 47	-	96 00	96 00	232 15
Heath Local, . . . . .	.	32 82	-	6,450 85	6,450 85	2,533 02
Highland, . . . . .	.	473 16	-	48 60	48 60	15 78d
Littleton, . . . . .	.	136 75	-	-	-	473 16
Massachusetts, . . . . .	.	-	-	-	-	136 75
Millers Falls, . . . . .	.	405 44	-	-	-	405 44
Mixer Brothers, . . . . .	.	418 69	-	-	-	418 69
New England Telephone and Telegraph, New England Telephone and Telegraph of Massachusetts, Northfield Farms, . . . . .	.	4,112,813 25	-	3,982,496 00	3,982,496 00	130,317 25
North Orange, . . . . .	.	309 60	-	-	-	309 60
Oakham & Coldbrook Springs, . . . . .	.	26 50	-	-	-	26 50
Providence of Massachusetts, . . . . .	.	320 79	-	118 65	118 65	102 14
Richmond, . . . . .	.	6,143 44	-	6,400 00	6,400 00	237 56d
Southern Massachusetts, . . . . .	.	618 56	-	128 80	128 80	489 76
State Line, . . . . .	.	23 24d	-	-	-	23 24d
Taghonic, . . . . .	.	1 45d	-	-	-	1 45d
West Stockbridge Mutual, . . . . .	.	17 96d	-	-	-	17 96d
Totals, . . . . .	.	\$42,631,490 92	\$2,500,000 00	\$36,496,072 66	\$36,996,072 66	\$3,635,418 26

d Deficit.

TABULATED STATEMENT OF INCOME ACCOUNTS FROM REPORTS OF TELEGRAPH COMPANIES, YEAR
ENDING DECEMBER 31, 1917.

TELEGRAPH COMPANIES.		Operating Revenue.	Operating Expenses.	Net Operating Revenue.	Non- Operating Income.	Gross Income.
Commercial Cable,	.	\$48,004 35	\$42,888 54	\$5,115 81	\$198 80	\$5,304 61
Martha's Vineyard Telegraph,	.	18,405 47	8,679 91	4,725 56	-	4,725 56
New England Telegraph,	.	16,463 71	16,718 46	1,944 25	-	1,944 25
Postal Telegraph Cable of Massachusetts,	.	472,785 37	469,201 60	3,483 77	14 68	3,498 45
United Telegram,	.	49,486 19	46,206 11	3,280 08	173 40	3,453 48
Western Union,	.	76,095,511 06	54,631,894 90	22,343,626 16	1,484,711 03	23,828,337 79
Totals,	.	\$77,697,765 16	\$65,226,639 43	\$22,363,125 63	\$1,486,998 51	\$23,847,294 14

Tabulated Statement of Income Accounts from Reports of Telegraph Companies, Year ending December 31, 1917 — Concluded.

TELEGRAPH COMPANIES.		Deductions from Income.	Net Income.	Dividend Appropriations.	Total Appropriations.	Surplus for the Year.
Commercial Cable,		\$5,055 07	\$309 54	-	-	\$309 54
Martha's Vineyard Telegraph,		471 23	4,254 33	\$500 00	\$500 00	3,754 33
New England Telegraph,		138 47	1,705 78	-	-	1,705 78
Postal Telegraph Cable of Massachusetts,		3,251 85	245 60	-	-	245 60
United Telegram,		-	3,453 43	-	-	3,453 43
Western Union,		10,212,971 52	13,615,366 37	6,983,297 50	8,593,297 50	4,783,048 77
Totals,		\$10,221,838 14	\$13,626,226 90	\$6,983,797 50	\$6,983,797 50	\$4,742,338 50

TABULATED STATEMENT OF INCOME ACCOUNTS FROM REPORTS OF EXPRESS COMPANIES, YEAR
ENDING DECEMBER 31, 1917.

EXPRESS COMPANIES.	Gross Earnings.	Operating Expenses.	Net Earnings.	Miscellaneous Income.	Gross Income.	Deductions.	Net Divisible Income.	Dividends.	Surplus for the Year.
Adams,	\$54,360,865 39	\$87,184,000 95	\$2,823,195 56 ¹	\$2,308,709 04	\$514,486 52 ²	\$1,370,086 26	\$1,884,543 78 ²	\$550,000 00	\$2,434,543 78 ²
Alger & Co.,	8,007 41	5,402 53	2,604 89	-	2,604 89	-	2,604 89	-	2,604 89
American,	70,816,069 46	78,547,106 09	1,267,963 37	860,709 55	2,128,672 92	871,079 74	1,257,593 18	1,046,190 00	211,403 18
Armstrong Transfer,	346,838 90	309,016 61	37,822 29	-	37,822 29	4,551 68	33,270 61	15,000 00	18,270 61
Atlantic,	191,981 16	191,424 64	556 52	-	556 52	994 40	387 88 ²	-	387 88 ²
Bailey's South Natick & Wellesley,	28,200 92	29,248 32	1,047 40 ²	-	1,047 40 ²	317 97	1,365 37 ²	-	1,365 37 ²
Boston & Lawrence Despatch,	56,831 40	53,787 15	3,044 25	-	3,044 25	128 00	2,915 25	-	2,915 25
Boston & Lowell, Manchester & Concord,	93,364 20	91,661 89	1,702 31	-	1,702 31	1,560 00	142 31	-	142 31
Boston, Providence & Fall River,	31,416 15	29,166 79	2,258 36	-	2,258 36	165 25	2,093 11	-	2,093 11
Bowman's,	10,851 70	8,865 33	1,986 37	-	1,986 37	18 53	1,967 84	-	1,967 84
Brookton Transportation,	278,930 97	217,187 63	12,743 39	-	12,743 39	281 04	12,462 35	20,000 00	7,537 75 ²
Bradford's,	8,784 88	7,929 64	855 24	-	855 24	-	855 24	-	855 24
Byam & Reynolds,	40,129 77	35,799 52	4,330 25	-	4,330 25	2,145 60	2,184 65	-	2,184 65
Carter, Russell & Co., Inc.,	7,962 30	7,851 49	140 71	-	140 71	-	140 71	-	140 71
Columbus Interstate,	4,006 09	3,619 10	386 90	-	386 90	23 36	363 54	300 00	63 54
Dart's,	38,962 38	35,688 98	3,303 40	-	3,303 40	190 70	3,112 70	600 00	2,512 70
Dennie's (Campello),	28,260 45	24,606 55	1,653 90	-	1,653 90	191 50	1,462 40	-	1,462 40
Dennis's,	20,895 00	20,895 00	-	50 00	-	-	575 90 ²	-	575 90 ²
Drew's,	5,187 82	5,813 43	625 60 ²	-	625 60 ²	232 66	1,029 53	-	1,029 53
Eaton's,	28,664 35	27,402 16	1,262 19	-	1,262 19	35 04	1,115 67	-	1,115 67
Estabrook,	13,345 80	13,195 99	150 71	-	150 71	-	150 71	-	150 71
Framingham & Boston,	43,246 84	38,905 22	6,641 62	-	6,641 62	381 57	6,259 05	-	6,259 05
Gibb's,	55,661 90	60,485 66	6,176 24	-	6,176 24	-	4,844 67	-	4,844 67
Hart & Co.,	40,543 61	39,334 19	1,208 42	-	1,208 42	371 31	1,208 42	-	1,208 42
Hayward & Litch,	28,240 66	28,287 44	46 78 ²	-	46 78 ²	871 31	418 06 ²	-	418 06 ²
Houghton & Co.,	16,671 97	16,421 87	250 10	-	250 10	108 67	141 43	-	141 43
Howe & Co.,	35,044 54	34,124 99	919 55	-	919 55	640 76	278 80	-	278 80
Jenkins & Simmons,	16,234 56	14,080 06	2,174 51	-	2,174 51	40 68	2,133 83	-	2,133 83
Kidder Bros.,	7,800 00	8,710 00	910 00 ²	-	910 00 ²	37 00	873 00 ²	-	873 00 ²
Litchfield's,	11,267 72	9,473 86	1,793 87	-	1,793 87	-	1,793 87	-	1,793 87
Marshall & Moulton,	60,319 36	59,519 13	1,800 26	-	1,800 26	185 11	1,615 15	-	1,615 15

Morton's,	40,436 88	36,116 07	4,321 76	667 46	3,654 30	3,654 30
Malinch,	3,500 00	4,285 00	1,216 00	-	1,216 00	1,216 00
McKee,	20,219 06	16,850 71	3,368 96	100 40	3,368 56	3,268 26
Munsey & Arnold-Merritt,	208,145 92	200,036 43	6,109 49	4,464 88	1,624 61	1,624 61
New York & Boston Despatch,	133,051 06	129,834 11	4,162 86	-	4,162 86	4,162 86
North Shore,	133,123 39	132,024 13	6,109 26	1,400 00	4,709 26	4,709 26
Parler's,	17,632 30	16,063 82	268 37	283 04	283 04	283 04
Penniman's,	17,632 30	17,734 73	268 37	105 00	268 37	268 37
People's,	31,539 20	29,483 23	4,510 46	117 23	4,393 23	4,393 23
Pettingell & Drally,	13,743 04	13,743 04	2,968 09	-	2,968 09	2,968 09
Preston's,	13,743 04	13,701 27	4,510 46	30 00	30 00	30 00
Shattoune-Coughlan,	10,080 00	10,080 00	2,902 38	-	2,902 38	2,902 38
Smith & Co.,	23,139 31	23,037 02	404 61	126 29	532 06	532 06
Smith & Co.,	23,040 62	23,037 02	1,132 96	-	1,132 96	1,132 96
Thompson's,	6,580 51	6,580 51	314 40	-	314 40	314 40
Wheeler,	7,557 89	7,557 89	40 98	35 04	5 94	5 94
Total,	\$136,394,710 62	\$137,830,257 30	\$1,733,928 91	\$2,260,560 06	\$526,631 15	\$2,160,631 15

d Deficit.

TABULATED STATEMENT OF INCOME ACCOUNTS FROM REPORTS OF VOLUNTARY ASSOCIATIONS, YEAR
ENDING DECEMBER 31, 1917.

VOLUNTARY ASSOCIATIONS.	Gross Income.	Deduct- tions from Income.	Net Income.	Interest Charges.	Net Divisible Income.	Dividends Paid.	Surplus for the Year.
Boston Suburban Electric Companies,	\$114,904 34	\$11,154 54	\$103,749 80	\$48,039 15	\$55,710 65	\$31,203 00	\$94,507 65
Boston & Worcester Electric Companies,	66,887 43	3,787 30	63,120 13	-	63,120 13	67,872 00	4,741 87 ^a
Massachusetts Consolidated Railways,	6,428 56	3,543 00	2,885 56	16,530 00	13,644 44 ^a	9,688 25	23,333 69 ^a
Massachusetts Electric Companies,	27,849 85	15,383 07	12,467 78	150,000 00	137,793 22 ^a	-	137,793 22 ^a
New England Investment and Security Company,	319,630 80	18,404 03	301,226 77	308,453 80	7,223 73 ^a	83,138 00	90,383 73 ^a
New Hampshire Electric Railways,	86,173 68	9,118 24	77,055 34	15,239 01	61,796 33	101,985 00	40,188 67 ^a
Southeastern Electric Companies,	29 95	1,200 00	1,170 05 ^a	-	1,170 05 ^a	-	1,170 05 ^a
Springfield Railway Companies,	211 29	5,920 87	5,709 58 ^a	-	5,709 58 ^a	7,758 00	13,467 58 ^a
Worcester Railways and Investment Company,	160,933 97	11,772 73	149,161 24	-	149,161 24	161,059 50	11,898 26 ^a
Totals,	\$783,079 87	\$80,453 88	\$702,626 99	\$538,260 66	\$164,346 33	\$462,703 75	\$398,337 43 ^a

^a Deficit.

STATEMENT OF INCOME ACCOUNTS FROM REPORT OF SLEEPING CAR COMPANY, YEAR ENDING
DECEMBER 31, 1917.

	Gross Income.	Deductions from Income.	Net Income.	Interest Charges.	Net Divisible Income.	Dividends Paid.	Surplus for the Year.
Pullman Company,	\$52,735,068 61	\$39,328,891 53	\$13,406,107 08	\$328 03	\$13,405,809 05	\$9,543,092 68	\$3,861,876 37

TABULATED STATEMENT OF INCOME ACCOUNTS FROM REPORTS OF STEAMBOAT COMPANIES, YEAR
ENDING DECEMBER 31, 1917.

STEAMBOAT COMPANIES.	Operating Revenue.	Operating Expenses.	Net Operating Revenue.	Miscellaneous Income.	Gross Income.	Deductions from Income.	Net Divisible Income.	Dividend Appropriations.	Surplus for the Year.
Boston & Gloucester,	\$136,016 67	\$129,235 70	\$6,780 97	\$65,000 00	\$71,780 97	\$4,835 44	\$66,945 53	\$37,500 00	\$29,445 53
Boston, Nahant & Pines,	14,063 55	16,920 20	2,856 65d	4,235 37	1,378 72	3,544 87	2,165 85d	-	2,165 85d
Cape Cod,	70,602 90	60,039 90	10,563 00	328 28	10,891 28	1,188 48	9,702 80	-	9,702 80
Nantasket Beach,	384,576 34	288,259 95	96,316 39	10,110 30	106,426 69	28,960 14	77,466 55	72,000 00	5,466 55
New Bedford, Martha's Vineyard & Nantucket,	247,772 87	266,020 99	18,248 12d	4,260 24	13,087 88d	6,868 80	20,856 68d	-	20,856 68d
New Bedford Tow Boat,	33,301 49	40,016 35	6,714 86d	-	6,714 86d	1,457 22	8,172 08d	-	8,172 08d
Totals,	\$880,333 82	\$800,493 09	\$85,840 73	\$83,934 19	\$169,774 92	\$46,854 65	\$122,920 27	\$109,500 00	\$13,420 27

d Deficit.

APPENDIX.

APPENDIX.

SPECIAL REPORTS AND ORDERS RELATING TO RAILROADS, STREET RAILWAYS, ELECTRIC RAILROADS, STEAMBOATS, TELEPHONE, TELEGRAPH AND EXPRESS COMPANIES.

NEW ENGLAND RAILROAD RATES.

Memorial to the Hon. William G. McAdoo, Director-General of the United States Railroad Administration, by the Public Utilities Commission of Connecticut, Public Utilities Commission of Maine, Public Service Commission of Massachusetts, Public Service Commission of New Hampshire, Public Utilities Commission of Rhode Island, Public Service Commission of Vermont.

SUBMITTED AUGUST 1, 1918.

To the Honorable W. G. McADOO, *Director-General, United States Railroad Administration, Washington, D. C.*

This memorial, dealing with railroad rates in New England, is respectfully submitted by the —

Public Utilities Commission of Connecticut,
Public Utilities Commission of Maine,
Public Service Commission of Massachusetts,
Public Service Commission of New Hampshire,
Public Utilities Commission of Rhode Island,
Public Service Commission of Vermont.

These commissions are all charged with public responsibility in transportation regulation, and it is part of their duty to keep in-

formed in regard to railroad rates affecting their states and to do what they can to protect the public interest in this respect from injury. After joint conferences, public hearings and careful study of the situation, they are unanimous in believing that certain of the rates established or definitely proposed by the New England carriers under your direction are unjust and unreasonable, and they therefore appeal to you for relief, with entire confidence that when the facts are brought to your attention it will speedily be granted.

The appeal is made with full realization that the country is at war, that the first duty of every citizen is to help win the war, and that the New England carriers must not impose a burden upon the federal treasury under present conditions. No request is made which, in our judgment, conflicts in any way with this realization.

Situated in one corner of the country, with few natural resources, New England is peculiarly dependent upon transportation. Quoting from the Interstate Commerce Commission in a recent decision (49 I. C. C., 421, p. 424): —

New England has a population of about seven and a quarter millions. Probably there is nowhere in this country a substantially equivalent population living upon a comparable area of land so dependent upon transportation for the necessities and comforts of life as is this New England community.

As you know, its business consists mainly in importing large quantities of cotton, wool, iron and other raw materials from the West and the South and converting them into finished products for sale all over the country. The disastrous effect which unjust railroad rates would have upon our industries and our people you will readily appreciate.

In your telegram of May 26, at the time when the new rates were established, you asked the state commissions to co-operate "in getting the public to support, in a patriotic spirit and as a war measure, these substantial rate increases which are the outgrowth of war conditions and which in principle and in substance are indispensable to enable the federal government to discharge the transportation functions which are essential to the successful conduct of the war." This co-operation has been given, the increases have been received in the spirit desired, and the necessity for the summary action taken has been recognized. You also asked, however, for the advice of the commissions "in perfecting

the rates thus initiated" and in making the "inevitable readjustments needed to accomplish the largest measure of relative justice." The requests and suggestions herewith submitted are offered with that end in view.

Briefly, they are as follows:—

I. DIFFERENTIAL RATES.

(1) *All-rail Differentials.*—For more than forty years a somewhat lower scale of rates has prevailed from New England to so-called "differential territory" in the West over certain of the longer all-rail routes than over the standard trunk lines. At the present time these differential rates are in effect via the Grand Trunk, Canadian Pacific and Rutland routes. It is now proposed to raise all such rates to the standard all-rail basis. *The New England commissions strongly protest against such action.*

These differentials originated in the desire of the companies having the roundabout routes to secure some portion of the west-bound traffic. Under normal conditions the service which they furnish is necessarily inferior to that offered by the more direct routes and cannot be sold at the same price. The lower rate corresponds to the lower value. Rate wars proved that traffic equilibrium could be maintained only by the allowance of reasonable differentials, and they have been consistently recognized and preserved in the agreements which have taken the place of unrestrained competition. (See Appendix A.) We desire to direct your attention to the following considerations:—

(A) Both the domestic and the import business of New England have been built upon the basis of these differential rates. They have been in force for so long a time that they have been woven into the industrial fabric. The standard rates from Boston are equal to the New York rates and higher than the rates from the ports of Philadelphia and Baltimore. The rates from the latter ports are in general lower even than the New England differentials. Removal of these differentials would upset the balance which has been maintained for so many years and strike a damaging blow at New England ports and industries. In all six states we find no difference of opinion in regard to this matter among commercial organizations and shippers.

(B) Distance is only one factor in the making of railroad rates. It is reasonable that competition, commercial conditions and the value of the service should be considered, and they always have been hitherto. New York City fought for years to have the Philadelphia and Baltimore rates to and from the West raised to the New York level, and the adverse decisions of the Interstate Commerce Commission were not based on the

narrow ground of cost of service, but upon broad reasons of public policy. It was held that rates should be adjusted so that the important Atlantic ports would all receive a fair share of the business and be available for the use of the entire country. (See Appendix B.) The lower rates via the round-about routes from Boston have contributed to that result and have been permitted to stand. An attempt to uproot this rate structure of forty years' standing, upon which the business of New England has in substantial measure been constructed, would in our opinion be unsound statesmanship. If it were proposed to equalize the rates to and from the Atlantic ports, as has been done in the case of the Gulf and Pacific ports, the situation would be different; but this is a proposition to deprive Boston and the smaller New England ports of their one compensating advantage and leave their competitors with all that they now enjoy.

(C) It cannot be held that these differentials represent a concession for which other traffic is obliged to pay. The Canadian lines have always fought for these rates and wish to preserve them now. It is inconceivable that they would take this position if the rates were unremunerative.

(D) Following your General Order No. 28 these differential rates have already been increased 25 per cent, like other rates. *No war or other emergency confronting the federal government demands their elimination.* Whether or not any revenue advantage in the long run would result is very doubtful. There is little gain in diverting business to new channels and positive loss is inflicting injury by so doing upon the industries of any section of the country.

(E) Under normal conditions the result of eliminating these rates would be that westbound traffic would follow the longer northern routes only when congestion delayed traffic over the standard lines. Either the service would be generally impaired or the standard lines would be forced to provide facilities otherwise unnecessary. In other words, the present rate structure tends to spread traffic over all routes, while removal of the differentials would concentrate it over a few.

(F) Under the terms of the act of Congress federal control and operation of railroads may be only temporary. Many railroad men are looking forward to the time when private operation will be resumed. Until the future status is more definitely determined *the government should guard against radical changes which are not required, directly or indirectly, for the successful prosecution of the war.* It is, we feel, too much to expect that the able subordinates in charge of rate and traffic problems whom you have taken directly from private railroad employ, and who may return to such employ within a comparatively short time, will be uninfluenced by desires and prejudices derived from their former railroad affiliations, or that they may safely be allowed a free hand without the oversight of men whose associations have been with the general public interest.

(G) Nor is the fact that the injurious effect of changes may not at once be apparent, so long as the business of the country is diverted from its ordinary course into the making of munitions of war, a sufficient reason

for such changes. *It is difficult to retrace steps once taken.* The people of New England are not so much concerned with the immediate effect of eliminating the differential rates as they are with the results after normal competitive conditions are resumed. They are apprehensive that, in the confusion of war conditions, a step will be taken without proper forethought which, in the end, will cause grave and unnecessary damage.

(H) The compromise proposal to retain the differential rates on certain commodities, and eliminate them for all other traffic, is unsound in principle and practice. It would favor the large industry with facilities to press its complaint with vigor and discriminate against the small shipper who is not in so good a position to make himself heard. It would also involve much unnecessary labor for your subordinates. These all-rail differentials via the northern routes are not special rates granted to particular industries to enable them to compete in a certain market, but an *essential part of the general rate structure*, equivalent in this respect to the "port differentials" in favor of Baltimore and Philadelphia.

(I) Your General Order No. 28 seems to recognize very clearly that the preservation of existing differentials is desirable, for it provides, in section 7, that "in establishing the freight rates herein ordered, while established rate groupings and fixed differentials are not required to be used, *their use is desirable*, if found practicable, even though certain rates may result which are lower or higher than would otherwise obtain."

(2) *Rail-and-Water Differentials.* — For many years the ocean-and-rail and lake-and-rail rates between eastern points and the West and South have been lower than the standard all-rail rates. Two factors have entered into the making of these rates. Under normal conditions traffic moves more slowly over the rail-and-water routes and the cost of water transportation is ordinarily less. In the "Fifteen Per Cent Case" the Interstate Commerce Commission made the following statement (45 I. C. C., 303, p. 324): —

... Ordinarily rates via rail-and-water routes are maintained at a lower level than via all-rail routes. Largely increased costs of operation, the diversion of traffic to other channels because of war conditions, and the attendant increased marine insurance have laid upon such rail-and-water routes unusual burdens. We think that existing conditions justify the maintenance of rates via such routes on a level not higher than the all-rail rates between the same points.

It should be noted that this finding related solely to rail-and-water rates, was based upon the disproportionate increase in the case of water transportation, and *constitutes no precedent for the elimination of the all-rail differentials above considered.* Subse-

quently many of the rail-and-water rates were raised to the all-rail basis, and similar adjustments have been continued under your direction.

If there is ground for eliminating these rail-and-water differentials, it is due to unusual and very extraordinary conditions. Their permanent disappearance from the rate structure would be most unfortunate. *We request, in any event, that the increase to the all-rail basis be strictly limited in time, so that there may be a definite understanding that the lower rates will prevail when normal conditions are restored.*

We desire to direct your especial attention, however, to the rail-and-lake route from Boston via the Boston and Maine, Grand Trunk and Canada-Atlantic Transit Company's lines through Depot Harbor. The rates via this route have always been on a lower basis than the standard rail-and-lake rates, just as the corresponding rates via the all-rail Grand Trunk route have been lower than the standard trunk line rates. They have now been raised to the latter basis and are thus higher than the all-rail differential rates. We are confident that the Interstate Commerce Commission, when it made its finding in the "Fifteen Per Cent Case," had no intention of producing such a result or of permitting any rail-and-water rates to be raised above the *corresponding* all-rail rates. It is perfectly clear that traffic will not move over this roundabout rail-and-water route under such conditions and that the rates, if they are to be raised at all beyond the normal 25 per cent, *ought at least to be reduced to the all-rail differential level.*

II. EXPORT AND IMPORT RATES.

Your General Order No. 28 provided in section 3 that "all export and import rates shall be cancelled and domestic rates applied to and from the ports." Consideration of actual conditions has already made it necessary to modify this ruling. For example, the rate from the West to Boston on export business has for years been the same as to New York, while the domestic rate is higher. This export rate to Boston has been continued, notwithstanding your original order. We also understand that the export rates on grain to the various Atlantic ports have also been retained to preserve existing relationships. All special export or import rates on particular commodities, however, applying to and from the West or locally in New England, have been wiped out.

These special commodity rates have been made to meet special trade conditions. An illustration is the case of the Ludlow As-

sociates, who operate mills near Springfield, Massachusetts, with more than 3,000 employees. This industry was established upon the basis of a special import rate on jute, which moves to the plant, not in carloads merely, but in trainloads from Boston. This concession was necessary to enable it to meet the competition of plants located on the seaboard. The original rate was 5 cents, increased last spring to 6 cents. The elimination, under your order, of this import rate has caused the jute to move under the ordinary fifth-class rate, which is now 15½ cents. Other equally striking instances might easily be given.

The making of such special rates on export and import business has been adjudged lawful by the United States Supreme Court. In *Texas & Pacific Railway v. Interstate Commerce Commission*, 162 U. S. 197, where such a rate was involved, it was held that the Commission might consider "the desire and advantage of the carriers in securing special forms of traffic, and the interest of the public that the carriers should secure that traffic, rather than abandon it, or not attempt to secure it" (p. 218). It was also held that "in deciding whether rates and charges made at a low rate to secure foreign freights which would otherwise go by other competing routes are or are not undue or unjust, the fair interests of the carrier companies and the welfare of the community which is to receive and consume the commodities are to be considered" (pp. 233, 234). Already you have found it desirable to issue special import and export commodity tariffs via the Pacific coast, and we are informed that similar rates have been published via the Gulf ports.

This export and import rate situation, we believe, affords a good illustration of a danger incident to federal control. Under the act of Congress the President has the power to initiate rates which cannot be suspended by the Interstate Commerce Commission pending investigation. This exception to the long-established practice was wisely made in war time, so that a revenue emergency might be met without delay or drain upon the federal treasury. Where a change in rates, however, is contemplated, not to meet such an emergency, but to equalize or improve the rate structure, there is no necessity for summary action and no good reason for departing from the usual procedure.

The war emergency may have demanded a uniform increase of 25 per cent in the export and import rates, along with all other tariffs. It could not have required the wiping out of these rates and the substitution of domestic rates in their place. If such a

change is desirable in any case, it is because discrimination or undue preference exists which ought to be eliminated. It is not just nor wise, therefore, to destroy all export and import tariffs and place upon shippers the burden of proving that certain of these rates ought to be restored. In the process serious injury is likely to fall upon wholly innocent parties, for which they may be unable to secure redress. A fairer plan would be to follow the established practice and file all changes with the Interstate Commerce Commission or the state commissions, subject to the usual power of suspension and investigation, so that shippers may have advance notice of such readjustments of rates and opportunity to protect their interests before the blow falls. It is perfectly feasible, it seems to us, to do this without interfering in any way with the prosecution of the war.

Our request is, therefore, that all export and import rates to and from New England points be restored and that, if it then seems just and reasonable to eliminate some of these rates, these changes be filed in the usual way, subject to the normal provision for suspension and investigation by the supervising commissions.

III. THE HORIZONTAL INCREASE.

It has been generally recognized that a uniform percentage increase in rates is objectionable. In the "Fifteen Per Cent Case" this was stated by the Interstate Commerce Commission as follows (45 I. C. C., 303, pp. 316, 324): —

. . . It was generally admitted that a percentage increase would destroy existing rate relations, and in all cases where the amount of the charge is appreciably large and where the differences in distance between competitive localities are relatively great a 15 per cent increase would seriously affect competitors in a common market. . . .

Only a most urgent and extraordinary situation would justify permitting tariffs carrying a large percentage increase to become effective. This record does not disclose the existence of a situation requiring so heroic a remedy.

Inasmuch as a general percentage increase is so undesirable because of its serious effect upon commercial conditions and established relationships, it would seem to be appropriate for the carriers to cancel the tariffs which we suspend herein, and permission is hereby accorded them so to do.

If this were true of a 15 per cent increase, manifestly it applies in even stronger degree to a 25 per cent increase.

Whenever percentage increases have hitherto been made between eastern seaboard cities and the West, revisions have always

followed to keep competing ports and the related interior points in proper adjustment. To illustrate: The rates to and from New York are the key to the structure, and when these rates were raised 15 per cent the rates at the other ports were promptly made higher or lower than the New York rates by the regular differentials.

A horizontal increase affects adversely the community which is farthest removed from the common market. Using the trans-continental rates to the Pacific coast as an illustration, the 25 per cent increase has raised the first-class rate from the Atlantic seaboard cities 92½ cents, from \$3.70 to \$4.62½, while the similar rate from St. Louis has been raised but 82½ cents, from \$3.30 to \$4.12½. The spread between the St. Louis and the Atlantic rates has thus been increased from 40 cents to 50 cents, and the additional 10 cents is a new burden which New England manufacturers must carry in competing for the Pacific trade with the manufacturers of the Middle West. The changes in the trans-continental rates are given in detail in Appendix C. A similar adverse effect is felt in the rates to the Central West, to Texas common points, to the Southwest, to the Southeast and to other competing territory.

In its order dated January 4, 1915, following the Supplemental Hearing in the "Five Per Cent Case," the Interstate Commerce Commission, after pointing out that "certain rate relations have been established by grouping points of origin and points of destination and applying a common rate to or from such points; that the construction of rates to or from specific points is based upon a percentage of rates to or from other points; that certain rates are constructed by the observance of specific or arbitrary rates or differences to or from adjacent or competitive points, and that rates via differential routes are constructed by the application of stated differentials under the rates of standard rail routes," and declaring "that these described groupings and relations should, in the interests of carriers and of competition between shippers and receivers, be maintained," provided in detail that the increased rates should be established upon this basis. Precisely the same process was followed in the "Fifteen Per Cent Case." As above shown, section 7 of your General Order No. 28 contains a similar provision.

Notwithstanding this provision, the adjustments so recommended have not been made. From this disruption of relationships New England is now suffering, and it will suffer more

acutely after return to normal business conditions. *Our request is that steps be taken at once to restore the group relationships and differentials which prevailed prior to June 25, 1918, so that our industries may not be handicapped in the competitive markets of the country.* In making this request, we are asking only for what has hitherto been deemed to be fair and reasonable and for an adjustment which can be made without reducing the revenues of the carriers.

IV. CLASS RATES.

In the past five years the New England carriers have repeatedly raised rates, both freight and passenger, being permitted to make practically every increase which has been sought. The following statement is from the last annual report of the Public Service Commission of Massachusetts (p. xii): —

The New York, New Haven and Hartford system has been permitted to make, between July 1, 1914, and October 31, 1917, increases in freight and passenger rates estimated at \$7,809,602. This estimate was based on freight tonnage and passenger traffic data available at the times when the various new rates became effective. Allowing for increased tonnage and traffic since these dates, the revenue of the system is now approximately \$9,000,000 larger per year than it would have been if the increases had not been permitted. The Boston and Maine and Boston and Albany railroads have been allowed similar increases.

It should be noted that the 15 per cent increase which the Interstate Commerce Commission denied in the South and the West was allowed in New England.

Late in 1917, these roads filed applications for further numerous and substantial increases in passenger fares and local class freight rates. Members of the public service commissions of the six New England states and of the second district of New York, upon invitation, sat with a member of the Interstate Commerce Commission in hearing these cases in Boston. Interstate and intrastate rates, it should be said, are upon the same basis in New England; there are no "Shreveport Cases," and the state commissions have always worked in harmony with the federal board. While the cases were pending, the roads were taken over by the President and the decision of Commissioner Anderson was rendered on April 16, 1918, after the federal control act had been passed by Congress.

The decision (49 I. C. C., 421) was based upon evidence as to the revenue needs of the carriers in the year 1918,— i.e., upon

war conditions. At the time when it was rendered, the fact that the Railroad Wage Commission would probably grant further increases in wages was common knowledge. The advances in passenger fares were specifically approved "*as an emergency or war measure*" (p. 443). We know of no other case in the country where wholesale, territorial increases in rates were considered by the Interstate Commerce Commission at so recent a date or under similar conditions.

By this decision a radical change in the class rate structure was approved. On short-distance, high-class traffic the increase in some cases was nearly 100 per cent, while on long-distance, low-class traffic there were slight decreases. The following table showing the percentages of increase for the 50-mile and 100-mile distances will illustrate the character of the change approved: —

MILES.	CLASSES.					
	1	2	3	4	5	6
50,	40.9	43.2	40.0	34.8	22.2	21.4
100,	15.6	14.5	8.7	5.7	0.4	-

The rates approved for northern New England were, in general, 10 per cent higher than for southern New England. Increases on the Bangor and Aroostook and Canadian Pacific lines, where the class rates were already very high, were not approved.

At the time of your General Order No. 28 this change in class rates had not yet been made by the carriers. Following the order, the New Haven railroad, on June 25, 1918, introduced this so-called "Anderson Scale," and raised it 25 per cent. The other roads merely increased existing rates the same percentage, although they contemplate a further advance to the New Haven basis. The anomalous situation thus created is that the New Haven rates are materially higher than the rates charged by the other large New England carriers, besides being much higher than most of the rates in the rest of the country. We desire to call your attention to the following points: —

(1) The first-class rate from Boston to New York over the New Haven lines is now 62 cents, while the rate from Boston to Philadelphia is but 53 cents, a direct violation of the fourth section of the Interstate Commerce Act. The shoe manufacturers of Brockton, Massachusetts, can reach Harrisburg, Pennsylvania, a distance of 426 miles, for 57½ cents, while they

pay 62½ cents for the 226 miles to New York City. They can reach Springfield, Massachusetts, for 53 cents, while their competitors in Newark, New Jersey, pay 45 cents for a longer haul to the same point. These are typical illustrations. The whole New England situation is honeycombed with violations of the fourth section, and its industries are laboring under a serious and grotesque handicap in competing at New York and other market points with manufacturers in trunk line territory.

(2) The increases in the class rates already made by the New Haven road and proposed by the other New England carriers are far and away in excess of 25 per cent. For typical distances the percentages are as follows: —

MILES.	CLASSES.					
	1	2	3	4	5	6
25,	100.0	107.1	96.9	83.3	64.3	50.0
50,	77.3	83.8	76.7	69.6	55.5	50.0
100,	45.3	43.6	36.9	31.4	32.0	23.8
200,	39.0	39.1	30.6	27.0	22.8	13.3

We have no hesitation in saying that, if the Interstate Commerce Commission had known that 25 per cent was to be added to the rates approved in April of this year, they would have specified a distinctly lower basis. So high are the present rates on the New Haven road that manufacturers are resorting more and more frequently to motor truck transportation, even to and from New York City.

(3) These rates are distinctly higher, in general, than the class rates prevailing in the adjoining or nearby states of New York, New Jersey and Pennsylvania. They are also higher than the rates in most of the Central Freight Association territory.

(4) It is true that they are the same as the class rates in the central section of Michigan, and the Interstate Commerce Commission, in its recent decision, drew an analogy between that section and the New England territory. This analogy, however, in our judgment was not sound. The density of population in southern New England, where the corresponding rates prevail (they are higher in northern New England), is much greater. The section of Michigan in question has but two cities of more than 50,000 population, Grand Rapids and Saginaw, whereas the southern New England lines tap such cities as New York, Boston, Providence, Worcester, Springfield, Fall River, Albany, Troy, Hartford, New Haven, Lowell and Lawrence, — to name only a few of the number which might be listed. The New England lines are distinguished not so much by tonnage, although traffic density on the main lines is heavy, but by the large percentage of high-grade manufactured products paying high rates, and by

the relatively large proportion of revenue received from passenger traffic. The rate per ton per mile is high and so is the density of class freight.

Passenger revenue has a particularly important bearing. During the year ended June 30, 1917, 45 per cent of the New Haven's revenue and 34 per cent of the Boston and Maine's revenue were derived from passenger and allied traffic. In the recent New England case, an expert accountant employed by the Interstate Commerce Commission reached the conclusion, after careful analysis, that passenger service on the Boston and Albany and on the New Haven is more profitable than the freight service, and that on the Boston and Maine the two classes of service appear to produce about the same relative result (p. 461). This is an unusual showing, for it has been a general opinion in other parts of the country that passenger service is relatively unprofitable. We submit that in New England, especially in view of the extraordinary increase in fares, this situation has a decided bearing upon the question of fair freight rates. The passenger business in one sense is a by-product of the freight service. It is an element in the concentrated industrial development by which New England is distinguished, and ought to be considered in determining the amount which the carriers may reasonably charge for freight. In the past, low basic rates on raw material or finished products have frequently been granted to encourage the building up of an industry, so that the railroads might reap the advantages which accrue from increasing population. The population, business and high-class freight density in New England, which is hardly surpassed elsewhere, are much more than an offset to such a disadvantage as the high cost of fuel, and ample reason for class rates as favorable as are charged in any other part of the country.

We urgently request that all fourth section violations be eliminated and that class freight rates upon the larger New England roads be placed upon a uniform basis which will not involve a double increase. This basis can be the old rates plus the 25 per cent, or the "Anderson Scale" without the 25 per cent; but the increase ought not to be made twice over. While there are reasons for preferring the "Anderson Scale," it is probable that the other change could be brought about more quickly, and time is important. The present situation is so discriminatory and unjust to New England, as compared with trunk line territory, that it ought to be corrected at the earliest possible moment. The adoption of a more scientific scale could await the changes in the direction of a greater uniformity in class rate structure which, we understand, are contemplated throughout the country; but it would, we feel, be unreasonable to delay rectification of the New England rates pending such a country-wide revision. Quick relief is clearly needed.

V. RATES ON COAL.

New England, as you know, must bring its fuel from considerable distances. At the present time the high cost of coal at the mines and the greatly increased transportation charges have thrown a burden upon its people from which they are suffering acutely. The retail price of anthracite in Boston is \$11 per ton and \$10 is not an uncommon price for bituminous coal. In Maine, anthracite costs \$12.50 per ton. The burden is felt, not only directly in the homes, but indirectly in the rapid advance of charges for street railway service, gas and other commodities.

We have felt that there would be sound economic justification, for the sake of the general good, in keeping the coal rates at the old level. As far back as 1872, Charles Francis Adams, then chairman of the Massachusetts Board of Railroad Commissioners, sought to convince the New England carriers "that the cheapest possible carriage of coal by them, amounting in fact to carriage at cost, was a matter in which they were no less materially interested than was the community itself." He argued "that it was as bad economy for them to insist upon receiving large profits from the carriage of coal along the lines of their roads as it would be for a farmer to insist upon being handsomely paid for the cartage of every load of manure which he spreads upon his fields." There is much to be said for this position and it gains added force from the fact that, aside from the coal-producing roads, increased freight charges on coal add to the railroad's own cost of operation. In the case of the New England carriers, it is very nearly an even break between the increased receipts and the increased costs.

While such a policy might seem to operate to the disadvantage of the roads whose chief business is the hauling of coal, the earnings of individual roads are not of essential importance, under present conditions, either to the owners or to the Government, so long as the net operating revenue for the country as a whole is sufficiently large. There is special reason at the present time for exempting coal from the general increase and placing the burden where it may more easily be borne and with less community damage. You have yourself recognized the principle in advancing the commutation passenger rates but 10 per cent, although they were on a lower basis, and presumably less profitable to the carriers, than any other rates.

If, however, you feel that it is impracticable or undersirable to retrace the steps already taken and restore the rates on coal to

the old level, we desire to call your attention to certain features of the advances which seem, upon any theory, unjust and unreasonable.

Your General Order No. 28 provides that all coal rates which have not been increased since June 1, 1917, should first be raised 15 cents per ton, before applying the further specific increases. Any increases since that date were to be deducted from this 15 cents. It was the obvious purpose of this clause to authorize the increase of 15 cents per ton in those cases where advances of that amount had not been permitted in the "Fifteen Per Cent Case," the first order in that case being issued on June 27, 1917. The rates on bituminous coal to Hampton Roads and to other loading ports, such as Baltimore, Philadelphia and Elizabethport, were not involved in this proceeding, for the simple reason that on April 1, 1917, the Virginian Railway had already increased its rates to Sewall's Point from \$1.40 to \$1.50 per gross ton, and a like increase had been published by the Norfolk and Western to Lambert's Point, and by the Chesapeake and Ohio to Newport News. On April 16, 1917, increases of 5 cents were also made by the Baltimore and Ohio.

It is perfectly clear that these rates were not increased in June or July, 1917, for the reason that they had been raised in April, and also that the increases made in the latter month were brought about by the same conditions which led the Interstate Commerce Commission to approve the similar increases for the other roads a short time later. Because of this fortuitous circumstance these four roads — the Virginian, Norfolk and Western, Chesapeake and Ohio and Baltimore and Ohio — are now, to all intents and purposes, permitted to increase the former rate 25 cents in the case of Hampton Roads, and 20 cents in the case of the other loading ports, instead of 15 cents, before applying the main increases. *In fairness to New England consumers, already under a sufficiently heavy handicap, we ask that this situation be rectified.* It has been estimated that it will unduly tax our people about \$2,500,000 yearly.

By a ruling which followed your original order it was provided that, in the case of coal moving all-rail, the increase should be figured on the total rate, whether published as a joint through rate or made up of a combination of local rates. This ruling has not yet been made effective in some cases in New England, especially to Maine Central and Grand Trunk points reached through Portland, Maine, and it appears that there are also

serious mathematical errors in the tariffs which have been published. We assume, however, that these matters will be remedied. Even more serious is the situation with respect to coal moving to interior New England points by ocean-and-rail. In such a case each of the two rail hauls, the one from the mine to the boat and the one from boat to destination, is treated by itself in computing the advance. From the New River mines to Rumford, Maine, by ocean-and-rail, for example, the increase in the cost of the total rail haul is as high as \$1 since June 1, 1917, and \$1.10 since March 31, 1917. The similar increase from the same mines to Lawrence, Massachusetts, is 95 cents since the former date and \$1.05 since the latter.

It is probable that this result was not intended by your advisers. The provisions of section 2 (a) of your original order with reference to iron ore show clearly that separate treatment of two rail factors in a total haul which includes a water haul was not contemplated. This section expressly provides that the increase of 30 cents per net ton was not to be made "in rates on ex-lake ore that has paid one increased rail rate before reaching lake vessel." The total increase also violates the principle established in the "Fifteen Per Cent Case," where it was expressly provided that the 15-cent increase on anthracite coal should not exceed 15 cents between any two points in the United States (see Supplemental Order, March 26, 1918). *We therefore request that the existing rates be revised in accordance with this principle.* Manifestly any other treatment of the situation is very unfair to New England consumers, who are already heavily penalized by the tremendous present cost of water transportation.

VI. THE GENERAL RATE LEVEL.

It is not our intention to raise, at this time, the question as to whether rates in general have been raised to a higher level than is reasonable. We realize that you were confronted by an emergency and believe that you were justified in taking steps which would remove any danger that the railroads might impose a burden upon the federal treasury while the country is at war. Only actual experience can determine whether or not the general increase has been larger than necessary, and our present purpose, in conformity with your telegram of May 26, is merely to help you "in perfecting the rates thus initiated" and in making the "readjustments needed to accomplish the largest measure of relative justice."

Some of these readjustments, however, may involve minor reductions in revenue and, in order that undue importance may not be attached to that fact, we deem it permissible to direct your attention to certain facts which seem to indicate that the increases have been generous and that the general level of rates is now probably higher than the situation demands. In this connection we assume that no revenue is needed beyond an amount sufficient to maintain the properties in good condition, meet all other expenses of operation and taxes, and enable the Government to pay the so-called "standard return." Surplus beyond this point would merely be a form of indirect taxation.

During the past winter, weather conditions, as you know, were extremely severe and interfered with railroad operation to an unprecedented extent. As a result, operating expenses were abnormally high and net earnings fell off sharply. The decision to increase rates in the manner provided by your General Order No. 28 was reached in the midst of the pessimism created by the returns of these winter months. The showing in succeeding months, however, has proved to be more favorable. This is illustrated by the following table, which shows, for three of the larger New England roads, the estimated monthly "standard return" and the actual net earnings in May of this year corresponding to this return: —

	Standard Return.	Actual Net.
Boston and Maine,	\$799,538	\$589,360
New York, New Haven and Hartford,	1,408,201	1,289,036
Maine Central,	247,453	128,953

It will be seen that only a comparatively small increase in revenue would have been necessary to bring the earnings up to the standard.

The following further facts are deserving of consideration in this connection: —

(1) Important increases were approved by the Interstate Commerce Commission in the latter part of 1917 and in the early months of 1918, prior to your General Order No. 28. These increases were reflected only to a slight extent in the 1917 earnings and were not fully reflected in the earnings of the winter months of 1918. The following table is taken from the report of the Interstate Commerce Commission in the "New England

Rate Case" (49 I. C. C., 421, p. 437), and shows for the New Haven railroad the increases in rates granted since January 1, 1917, or pending in that proceeding:—

Freight rates increased since January 1, 1917, including 15 per cent advance,	\$2,635,475 56
Recently granted in 15 per cent case,	2,000,000 00
Recently granted in anthracite coal rates,	300,000 00
Recently granted in dry goods case,	239,625 46
Pending in this proceeding, passenger,	3,968,615 00
Pending in this proceeding, freight,	1,865,000 00

\$11,008,716 02

It has been estimated that the further advances made under your General Order No. 28 will bring the total increases since January 1, 1917, up to \$25,000,000. This is only a rough approximation, but we believe it to be conservative.

(2) The gain from the raising of passenger fares is especially marked in the case of the New England roads. At the time of your order the increases in these rates approved in April by the Interstate Commerce Commission had not been made. On the basis of the receipts in 1917, therefore, the total increase for the New Haven road may be estimated as follows:—

	1917.	Increase.	Per Cent.
Local tickets and cash fares,	\$21,767,205 46	\$4,353,441 09	20
Trip tickets,	2,368,944 28	236,894 43	10
Mileage tickets,	2,034,825 17	678,275 05	33
Commutation tickets,	2,101,203 02	210,120 30	10
Interline tickets,	6,155,623 35	1,231,124 67	20
	\$34,427,801 28	\$6,709,855 54	19½

(3) Within the past few months the railroads have introduced a number of important economies in operation. A campaign has been conducted to secure better loading of cars and to lessen delays in unloading, and the handling of less-than-carload freight in New England has been concentrated along similar lines by the introduction of the so-called "sailing-day plan." Some of the results are indicated by the fact that on the Boston and Maine railroad the number of revenue ton miles in April, 1918, exceeded the number in the corresponding month of 1917 by 26.3 per cent, while the number of freight train miles increased only 5.3 per cent, and the number of freight car miles only 2.1 per cent. The number of tons per train increased 20.4 per cent, the number of tons per loaded car 29.3 per cent, and the average miles per locomotive per day 10.6 per cent. Passenger service also has been greatly reduced and concentrated. In the fall of 1917, Howard Elliott estimated the probable total savings

per year on the New Haven road at \$5,000,000. Since he made this estimate, there has been a further substantial reduction in passenger train mileage, and the "sailing-day plan," for the handling of less-than-carload freight, has been introduced. It is also a fair assumption that government control has made possible certain economies which were not hitherto feasible. For example, it has been the practice in the Boston terminals to unload cars and then sort them out, before reloading, according to ownership and the territory to which they were to be returned. Under government control it is our understanding that this sorting process, which is very costly, can be dispensed with and the cars reloaded directly.

(4) We realize that substantial increases in wages have been granted by the Railroad Wage Administration and that these were not reflected in the returns for May. We also understand that the Government has under way, or proposes, important capital expenditures which will add to the interest charge. From such information as we have received, however, it appears that these expenditures will add materially to efficiency of operation and are directed toward that end. One of the difficulties with the New England railroads, particularly with the New Haven and the Boston and Maine, has been a lack of facilities for conducting the business in an economical manner. In the 1916 report to the stockholders of the New Haven company the president made the statement that "the plant of the company must have substantial additions made to it, if it is to perform the present business satisfactorily and economically and be ready to do the constantly growing business of New England." After stating that improvements costing about \$28,000,000 should be made "as soon as the money, men and materials can be obtained," the report went on to say: —

If these expenditures can be made, the capacity of the road will be increased, better service will be given to the public, and large savings in expenses can be made which are most important, especially if wages and material are to continue on the present basis. The company is preparing to do as much of this work as practicable, believing that the only way it can be restored to a dividend-paying basis is to put the plant in condition to produce and furnish safe and adequate transportation at the lowest unit cost, and to give improved working conditions to the employees.

Undoubtedly the lack of proper yard, side-track, shop and terminal facilities has greatly increased congestion, curtailed revenue and added to the cost of doing business. Well-informed operating men have felt, indeed, that improved facilities were as important a factor in bettering the financial condition of the New England carriers as an increase in rates.

We mention these facts merely as an indication that the increases which have been made have probably been generous and that there is no good reason to fear the effect of the minor reductions in revenue which may in some cases, perhaps, accompany the readjustments "needed to accomplish the largest measure of relative justice." If this is true in New England, it is

probably true in at least as great a degree in the remainder of the country. We take the liberty of suggesting, therefore, that if country-wide readjustments are to be made for the purpose of securing greater uniformity in passenger fares, class freight rates or the classification of commodities, they ought not to take the form of "revisions upward." *For example, it would be a mistake, we believe, to adopt for the entire country the basis of class rates now in effect upon the New Haven road.* The adoption of such a basis would mean, on the whole, a large increase over and above the 25 per cent which has already been made. These rates are too high for New England and they would be equally high for many other sections.

VII. CONCLUSION.

This memorial is offered in no captious or fault-finding spirit. We appreciate to the full the magnitude of the problems confronting your department and the perplexing difficulties which they involve. Our purpose is only to bring to your attention changes in the present rate structure which we believe are vital to the welfare of New England and can be made at the present time without conflicting with the prosecution of the war. We have the utmost confidence, also, that the people of New England will receive fair treatment at your hands.

In preparing our statement we have endeavored to state the facts concisely and to avoid the presentation of masses of statistics and figures. Many data in support of the requests which we make, however, are available, and we respectfully ask for an opportunity, either in public or private conference, to take these matters up with you or your advisers for further consideration. At the public hearings which were recently held by the six New England commissions in Boston, the following organizations were represented: —

Boston Chamber of Commerce,
Associated Industries of Massachusetts,
New England Traffic League,
New England Paper & Pulp Traffic Association,
New England Shoe & Leather Association,
Massachusetts State Board of Trade,
National Association of Wool Manufacturers,
National Association of Box Manufacturers,
New England Confectioners Association,
Arkwright Club [New England],
Brockton [Mass.] Chamber of Commerce,
Auburn [Me.] Board of Trade,

Portland [Me.] Chamber of Commerce,
Haverhill [Mass.] Chamber of Commerce,
Haverhill [Mass.] Shoe Manufacturers Association,
Providence [R. I.] Chamber of Commerce,
Worcester [Mass.] Chamber of Commerce,
New Bedford [Mass.] Board of Commerce,
Norfolk County [Mass.] Associated Boards of Trade,
Woonsocket [R. I.] Chamber of Commerce.

There was no disagreement among these organizations as to the situation or in regard to the changes which ought to be made in the public interest, and we have every reason to believe that this memorial would receive the unanimous endorsement of the industries and people of New England.

Respectfully submitted,

PUBLIC UTILITIES COMMISSION OF CONNECTICUT.

RICHARD T. HIGGINS, *Chairman*.

CHARLES C. ELWELL.

JOSEPH W. ALSOP.

PUBLIC UTILITIES COMMISSION OF MAINE.

BENJAMIN F. CLEAVES, *Chairman*.

WILLIAM B. SKELTON.

JOHN E. BUNKER.

PUBLIC SERVICE COMMISSION OF MASSACHUSETTS.

FREDERICK J. MACLEOD, *Chairman*.

JOSEPH B. EASTMAN.

EVERETT E. STONE.

PUBLIC SERVICE COMMISSION OF NEW HAMPSHIRE.

THOMAS W. D. WORTHEN.

WILLIAM T. GUNNISON.

PUBLIC UTILITIES COMMISSION OF RHODE ISLAND.

WILLIAM C. BLISS, *Chairman*.

SAMUEL E. HUDSON.

ROBERT F. RODMAN.

PUBLIC SERVICE COMMISSION OF VERMONT.

ROBERT C. BACON, *Chairman*.

WILLIAM R. WARNER.

WALTER A. DUTTON.

APPENDIX A.

EXTRACTS FROM THE ANNUAL REPORT OF THE MASSACHUSETTS
BOARD OF RAILROAD COMMISSIONERS IN 1879, SHOWING
ORIGIN OF THE CANADIAN DIFFERENTIALS.

The Trunk-line pool originally included only the Baltimore and Ohio, the Pennsylvania, the Erie, and the New York Central and Hudson River roads. It did not include the Grand Trunk; and, so far as the business of Massachusetts was concerned, an active competition had always existed between that road and the Boston and Albany. As between Boston and Chicago the route of the Grand Trunk was some 13 per cent the longer of the two, and it was also operated under great disadvantages of climate and of resources. Naturally, therefore, it could not do the through business so cheaply as its more direct competitor; but nevertheless it could destroy the value of that business, unless it was allowed a share of it satisfactory to itself. To induce business to seek its line, notwithstanding it was the least direct and expeditious, some inducement must be offered. Lower rates were the only inducement which could be offered. It, therefore, for years had claimed that on through business it should, because of its greater distance, be allowed to charge less for the same service than the Boston and Albany, and that such lower charge should not be treated as a "cut." The Boston and Albany declined to accede to this arrangement. It argued, that, upon every principle of correct railroad management, the shorter line made the rate, and the longer one accepted it; while to yield this principle involved the absurd concession, that, when it came to a trial of strength, the shorter route could not afford to work as cheaply as the longer. Accordingly, for years an intermittent struggle had been kept up between the two lines. As a matter of fact, the Grand Trunk was in the custom of making regular reductions on the Boston and Albany's current rates; but, so long as these reductions were moderate and carefully adjusted, so as not to influence an undue amount of business, they were ignored by the Boston and Albany, and rates were fully sustained. From time to time, however, and, indeed, so frequently as to cause great disturbance in many branches of trade, active hostilities broke out; and then rates from Boston would be reduced until the current of business at all the seaboard points was affected. (Pages 50, 51.)

The necessary pressure was accordingly brought to bear. In January, 1878, there was an active competition for the westbound

Boston business; and again the current of trade was sensibly affected, and began to flow from New York eastward to seek an outlet to the West. The New York combination then exerted itself to bring about an adjustment; as a result of which, the whole matter was by consent left to the commissioner of that combination as arbitrator. The principle was then at last formally accepted, that in cases of competition for through business between two rail routes, one of which is longer than the other, a concession must be made by the more favored to the less favored route as an inducement to it to sustain rates. Not to do this, it was argued, was to insist upon the less favored line either abandoning all claim on the competitive business, or, through competition, destroying its value to both lines. To ask or expect it voluntarily to abandon the business to its more favored rival, was clearly unreasonable; and, whether unreasonable or not, the request was one which would not be complied with, and which could not be enforced. The alternative was consequently a simple one: it lay between the voluntary concession of a part of the business, or the practical destruction of the value of all of it. The arbitrator accordingly fixed a temporary allowance of ten per cent of the entire rate charged, to be allowed in favor of the Grand Trunk, in consideration of which the latter was to sustain rates. (Page 53.)

APPENDIX B.

EXTRACTS FROM DECISIONS OF THE INTERSTATE COMMERCE COMMISSION IN REGARD TO ATLANTIC PORT DIFFERENTIALS.

*From Boston Chamber of Commerce v. L. S. & M. S. et al.,
1 I. C. C. 436.*

The element of cost of service which may at one period have been recognized as controlling in fixing rates has long ceased to be regarded as the sole or the most important factor for that purpose. The value of the service with respect to the articles carried, the volume of business, and the conditions and force of competition are justly considered to have controlling weight in determining the charges for transportation. (Page 454.)

*From New York Produce Exchange v. B. & O. R.R. et al.,
7 I. C. C. 612.*

In the light of these cases it is difficult to see why it is not perfectly legitimate for carriers to make differentials like those in question. The Baltimore and Ohio Railroad extends from

Chicago to Baltimore. It comes into competition with the lines running to New York for this export grain traffic. There are many kinds of traffic in which other facilities, like expedition, are of more importance than the mere question of rates, but in the case of this traffic, where a change of one-eighth cent a bushel in the cost determines through which port it shall be exported, the rate is practically the only medium of competition, and the only way by which the Baltimore and Ohio company can secure a share of this traffic is by making a rate in competition with the rate to New York which will secure it. If a lower rate is necessary it may make that lower rate, and it might make it even though the distance from Chicago to Baltimore was greater than the distance from Chicago to New York, and even though the cost of transporting that grain to Baltimore was greater than the cost of transporting it to New York. (Page 660.)

From "In the Matter of Differential Rates," 11 I. C. C. 13.

If it can be properly done, these ports should all be kept open for the transaction of this export business upon such terms that each one may fairly compete for it. No marked advantage should be given, certainly not by the creation of artificial conditions, to any one port over the other. The ideal condition would be the establishment of such rates that enterprise at either port in the way of improvement in service or facilities might be rewarded by increased business and that there might exist that healthy struggle of locality against locality which is the best security for proper commercial development. This is justly demanded by the interests of the communities involved.

In disposing of this question the interests of the carriers which serve these communities should be none the less kept in view. If, again, it can be properly done, these rates should be so adjusted that this competitive traffic will be fairly distributed between the different lines of railway which serve these ports. Each one of these four cities is reached by two or more great railway systems. The prosperity of these cities and systems cannot be separated. The ability of a railroad to adequately discharge its duty for a reasonable charge depends upon the business which it can obtain, and no one of these systems should be deprived of its fair portion of this enormous export traffic. The purpose of these differentials, from the first, has been to distribute this business between the different carriers, and we said in our former report that this was not improper unless the means used were improper. (Pages 62, 63.)

The purpose is to permit these carriers and the ports which they serve to compete for this traffic. The rates are to be so adjusted that there can be fair competition for this business via all the ports, so that no one shall possess a distinct advantage over the other. (Page 66.)

In view of the fact that Baltimore and Philadelphia have natural advantages in location, that Boston and New York have certain natural advantages in the way of ocean facilities, that it is impossible to make and maintain the same rate through all the ports, we think the true inquiry in adjusting this differential is, what will equalize the advantages of transportation through these various ports? What part of the advantage which Baltimore and Philadelphia enjoy on the score of the inland haul shall they be allowed to retain to compensate them for their disadvantage in the water haul? (Page 69.)

APPENDIX C.

TRANSCONTINENTAL RATES TO PACIFIC COAST (CENTS).

FROM —	CLASSES.									
	1	2	3	4	5	A	B	C	D	E
Atlantic Seaboard (New England, New York, Philadelphia, Baltimore): —										
Prior to 25 per cent raise,	370	320	265	225	190	192	152	120	115	105
25 per cent raise, June 25, 1918, . . .	462½	400	331½	281½	237½	240	190	150	144	131½
Increase,	92½	80	66½	56½	47½	48	38	30	29	26½
Buffalo-Pittsburgh: —										
Prior to 25 per cent raise,	360	310	260	220	185	187	148	117	112	100
25 per cent raise, June 25, 1918, . . .	450	387½	325	275	231½	234	185	146½	140	125
Increase,	90	77½	65	55	46½	47	37	29½	28	25
Cincinnati-Detroit: —										
Prior to 25 per cent raise,	350	303	252	215	180	182	145	115	110	98
25 per cent raise, June 25, 1918, . . .	437½	379	315	269	225	227½	181½	144	137½	122½
Increase,	87½	76	63	54	45	45½	36½	29	27½	24½
Chicago: —										
Prior to 25 per cent raise,	340	295	245	207	175	177	140	110	105	95
25 per cent raise, June 25, 1918, . . .	425	369	306½	259	219	221½	175	137½	131½	119
Increase,	85	74	61½	52	44	44½	35	27½	26½	24
St. Louis: —										
Prior to 25 per cent raise,	330	285	238	200	168	172	135	105	102	92
25 per cent raise, June 25, 1918, . . .	412½	356½	297½	250	210	215	169	131½	127½	115
Increase,	82½	71½	59½	50	42	43½	34	26½	25½	23
Missouri River,	300	260	220	183	160	160	123	95	93	85
Increase from Atlantic Seaboard greater than from —										
Buffalo-Pittsburgh by	2½	2½	1½	1½	1	1	1	½	1	1½
Cincinnati-Detroit by	5	4	3½	2½	2½	2½	1½	1	1½	2
Chicago by	7½	6	5	4½	3½	3½	3	2½	2½	2½
St. Louis by	10	8½	7	6½	5½	5	4	3½	3½	3½

ATTLEBOROUGH BRANCH-INTERSTATE RATES.

Notice of Attleborough Branch Railroad Company and Interstate Consolidated Street Railway Company of proposed changes in rates of fare for passengers.

BENTLEY W. WARREN for Attleborough Branch Railroad Company and Interstate Consolidated Street Railway Company.

HAROLD E. SWEET

JOHN J. COADY

GEORGE M. WORRALL

GEORGE L. CONNORS

WILLIAM A. BARTLETT

W. I. FERBISH

JAMES H. LEEDHAM

WILLIAM PLATTNER

} for City of Attleboro.

} for Town of North Attleborough.

EARL B. THOMPSON for Town of Plainville.

CHARLES R. REMINGTON for Town of Seekonk and Village of Hebronville.

WILL D. BROMLEY

ARTHUR F. GEHRUNG

} for Village of South Attleborough.

The Interstate Consolidated Street Railway Company owns and operates about 26 miles of track in the city of Attleboro and three adjoining towns, the population of which in 1915 was as follows:—

CITY OR TOWN.	Population.
Attleboro,	18,480
North Attleborough,	9,396
Plainville,	1,408
Seekonk,	2,767
Total,	32,053

At two points on the state boundary connection is made with lines of the Rhode Island Company, and the cars run through into Pawtucket. Much of the traffic is to or from that city.

The Interstate Consolidated has a somewhat complicated history. Most of its lines were originally constructed by two

companies, known as the Interstate Street Railway Company and the Attleborough, North Attleborough and Wrentham Street Railway Company. In 1893 these companies passed into the hands of a receiver and their properties, which included the lines running into Pawtucket, were sold at public auction. In 1895 a new corporation, known as the Interstate Consolidated Street Railway Company, was chartered in Rhode Island and was authorized by a special act of Massachusetts (St. 1895, c. 448) to take over these properties. Subsequently, on November 11, 1895, this new company was authorized by the Board of Railroad Commissioners to issue for this purpose securities amounting to \$317,200, being "the amount which the purchased properties have actually cost the corporation or its stockholders in cash, including not only the specific price, but such other legitimate and necessary cash expenditures as actually and in good faith have been incurred in effecting the purchase, securing the title, and putting the railways in fit condition for use." Securities to the further amount of \$62,800 — making \$380,000 in all — were authorized to provide means for necessary additions and improvements.

Some objection seems to have been raised to operation of a foreign company in Massachusetts, and in 1901 a domestic corporation having the same name was chartered (St. 1901, c. 159) to take over the portion of the property located in this commonwealth. On July 23, 1901, the Board of Railroad Commissioners authorized the new company to issue capital stock to the amount of \$275,000 for this purpose, upon condition that an equal amount of capital stock of the Interstate Consolidated Street Railway Company of Rhode Island should be surrendered and cancelled. At about the same time the portion of the property located in Rhode Island was sold to the Rhode Island Suburban Railway Company.

The stock of the Interstate Consolidated Street Railway Company of Massachusetts seems from the beginning to have been held by the Union Trust Company of Providence in trust for the Rhode Island Suburban Railway Company, and it is so held now. The latter company, however, was in 1902 leased to the Rhode Island Company for 999 years, and in 1906 the New York, New Haven and Hartford Railroad Company acquired the Rhode Island Company. By this process the stock of the Interstate Consolidated company passed into the control of the New Haven railroad. This situation was modified in 1909, when the benefit and enjoyment of this stock was sold by the Rhode Island Com-

pany to the New England Investment and Security Company for \$500,000, an amount figured by capitalizing on a 4 per cent basis the average net earnings of the Interstate Consolidated company for a period of years. The purpose of this transaction was to disguise New Haven control, but it continued to exist in indirect form till 1914, when the preferred shareholders of the New England Investment and Security Company secured control of that voluntary association, and trustees appointed by the United States District Court assumed possession of the Rhode Island Company. At present, therefore, the Interstate Consolidated company and the Rhode Island Company are separately controlled and neither is under the control of the railroad. The latter, however, has the largest financial interest in the property of both.

The Attleborough Branch Railroad Company was incorporated in 1870 and operates about 5 miles of track on private right of way, paralleling the line of the Interstate Consolidated between Attleboro and North Attleborough. Originally it was a steam railroad, leased to the Boston and Providence Railroad Company. This lease, however, expired in 1900, and not long afterward stock control passed to the Rhode Island Suburban Railway Company and the road was electrified for operation in combination with the Interstate Consolidated. The outstanding stock (\$131,700 in all) is still owned by the Rhode Island Suburban Railway Company, but the benefit and enjoyment thereof were sold in 1909 to the New England Investment and Security Company for \$100,000, so that the road is now in the same hands as the Interstate Consolidated and is controlled in precisely the same manner.

In local nomenclature, the Interstate Consolidated railway is divided into four parts. The "Plainville Line" extends from Plainville through North Attleborough to Attleboro; the "North Line" from Wamsutta Corner in North Attleborough through Orr's Corner in South Attleborough to the State boundary; the "South Line" from Attleboro to Orr's Corner and thence over the same tracks to the State boundary; and the "East Line" from Attleboro through a corner of Seekonk to the State boundary.

Between Plainville and Pawtucket the fare via the "North Line" is now 10 cents. Southbound the full amount is collected and retained by the Interstate Consolidated, but northbound the Rhode Island Company collects and retains the first 5 cents. The average fare, therefore, which is collected by the Interstate Consolidated on through traffic between Plainville and the State

boundary, a distance of 8.5 miles, is $7\frac{1}{2}$ cents. Between Plainville and Pawtucket via Attleboro and the "East Line" the fare is 15 cents, but a similar arrangement with the Rhode Island Company exists, so that the average fare collected by the Interstate Consolidated on through traffic over this route between Plainville and the State boundary, a distance of 10.8 miles, is $12\frac{1}{2}$ cents. These are maximum distances, for the fare to and from North Attleborough is the same, the distance to the State boundary being 6.7 miles via the "North Line" and 9 miles via Attleboro and the "East Line." Between Attleboro and Pawtucket the fare via the "South Line" is 10 cents, but in this case only 5 cents is collected by the Interstate Consolidated, in either direction, for the ride of 6.3 miles between Attleboro and the State boundary.

The company now proposes to retain the 5-cent minimum fare but to increase the number of zones, dividing the road into sections in each of which 5 cents will be charged, as follows: —

SECTION.	Line.	Distance (Miles).
Plainville to Wamsutta Corner, North Attleborough,	Plainville, . . .	1.81
Wamsutta Corner, North Attleborough, to Railroad Station, Attleboro.	Plainville, . . .	4.12
Railroad Station, Attleboro, to Cemetery Turnout, Attleboro.	East, . . .	2.16
Cemetery Turnout, Attleboro, to Rhode Island line,	East, . . .	2.74
Wamsutta Corner, North Attleborough, to Orr's Corner, South Attleborough.	North, . . .	4.07
Orr's Corner, South Attleborough, to Rhode Island line,	North, . . .	2.62
Railroad Station, Attleboro, to Orr's Corner, South Attleborough.	South, . . .	3.66

The result of this change, if it is permitted, will be to make the following increases in the charges for typical rides: —

RIDE.	Present Charge (Cents).	Proposed Charge (Cents.)	Increase (Per Cent).
Plainville to Attleboro,	5	10	100
Plainville to Pawtucket (North Line),	10	20	100
North Attleborough to Attleboro,	5	5	-
North Attleborough to South Attleborough,	5	5	-
North Attleborough to Pawtucket (North Line),	10	15	50
Attleboro to Pawtucket (East Line),	10	15	50
Attleboro to Pawtucket (South Line),	10	15	50
Attleboro to South Attleborough,	5	5	-
South Attleborough to Pawtucket,	5	10	100

The entire benefit of the increase indicated by this table will not in all cases go to the Interstate Consolidated company. The Rhode Island Company has recently been permitted by the Rhode Island authorities to charge 5 cents between Pawtucket and the State boundary, and to discontinue the present joint fare arrangement with the Interstate Consolidated. Temporarily this arrangement has been continued, pending the consideration of the Interstate Consolidated fares in Massachusetts, but it would cease to exist under the proposed new tariff. Between North Attleborough and Pawtucket, the present fare is 10 cents, but the Interstate Consolidated's portion of this averages but $7\frac{1}{2}$ cents. Under the new tariff the fare would be 15 cents and the Interstate Consolidated's portion would be 10 cents, an increase of $2\frac{1}{2}$ cents, the other $2\frac{1}{2}$ cents going to the Rhode Island Company. The situation between Attleboro and Pawtucket is similar.

The company also proposes, in connection with its new schedule, to eliminate all overlaps and transfer privileges. The result would be that in Attleboro and North Attleborough 10 cents would be charged for any ride, however short, passing the railroad station in one case and Wamsutta Corner in the other. No change is proposed in the fares charged by the Attleborough Branch Railroad Company.

The company's dividend record since the organization of the Massachusetts corporation in 1901 has been as follows: —

YEAR ENDED —	Dividends.	YEAR ENDED —	Dividends.
September 30, 1902,	—	June 30, 1911,	4
September 30, 1903,	—	June 30, 1912,	4
September 30, 1904,	11	June 30, 1913,	5
September 30, 1905,	7	June 30, 1914,	6
September 30, 1906,	7	June 30, 1915,	2
September 30, 1907,	—	June 30, 1916,	—
September 30, 1908,	—	December 31, 1916,	—
September 30, 1909,	5	December 31, 1917,	—
June 30, 1910 (9 months), . .	4		

Since 1914, revenue has fallen off, owing to conditions in the jewelry business in the Attleboroughs, while operating expenses have increased, as follows: —

YEAR ENDED —	Operating Revenue.	Decrease under 1914 (Per Cent).	Operating Expense.	Increase over 1914 (Per Cent).
June 30, 1914,	\$201,574	—	\$159,413	—
June 30, 1915,	173,503	—	145,938	—
June 30, 1916,	171,505	—	147,868	—
December 31, 1916,	187,332	—	162,382	—
December 31, 1917,	194,438	3.5	171,534	7.6

The decline in operating revenue would have been greater if it had not been for the growth of the freight and express traffic. Between 1914 and 1917 passenger revenue fell from \$186,337 to \$170,247, while freight and express revenue increased from \$10,827 to \$20,387. The increase in operating expense has occurred principally in the item, "Conducting Transportation," which includes the wages of motormen and conductors. The Interstate Consolidated buys its power from the Rhode Island Company at a stated rate per car mile, and has thus escaped the heavy increase in cost of power which many companies have suffered. Practically all its rolling stock is also rented from the Rhode Island Company upon a similar basis, so that little expense is incurred for maintenance of equipment.

The balance sheet of the Interstate Consolidated Street Railway Company on December 31, 1917, was as follows: —

<i>Assets.</i>	
Cost of railway: —	
Road and track,	\$376,202 90
Electric line construction,	102,258 55
Engineering,	2,935 12
Total cost of railway,	<u>\$481,396 57</u>
Cost of equipment,	715 62
Cost of land and buildings: —	
Land used in operation of railway,	\$35,963 04
Power and sub-station buildings and equipment, etc.,	28,495 53
Total cost of land, buildings, etc.,	<u>64,458 57</u>
Total permanent investments,	<u>\$546,570 76</u>
Cash and current assets: —	
Cash,	\$62,468 15
Miscellaneous accounts receivable,	6,431 98
Other current assets,	55 00
Total cash and current assets,	<u>68,955 13</u>
Miscellaneous assets: —	
Material and supplies,	\$769 89
Other miscellaneous assets,	275 11
Total miscellaneous assets,	<u>1,045 00</u>
Grand total,	<u>\$616,570 89</u>

<i>Liabilities.</i>	
Capital stock,	\$275,000 00
Current liabilities: —	
Loans and notes payable,	\$260,000 00
Audited accounts and wages payable,	19,457 13
Other current liabilities,	1,257 85
Total current liabilities,	<hr/> 280,714 98
Deferred liabilities,	257 50
Unadjusted credits: —	
Tax liability,	\$1,694 70
Operating reserves,	38,031 67
Other unadjusted credits,	825 02
Total unadjusted credits,	<hr/> 40,551 39
Corporate surplus,	20,047 02
	<hr/>
Grand total,	\$616,570 89

Since 1901, no bonds have been issued and the capital stock has remained at \$275,000. The short-time notes, amounting to \$260,000, have been issued, of course, entirely without public supervision. Owing to the relative magnitude of this floating indebtedness, the Commission felt it was necessary to secure specific information as to the purposes for which it had been incurred. The company was able to give very little help in this matter and the Commission, therefore, directed its engineers to inventory the physical property and estimate its reasonable original cost, for the purpose of determining the amount of capital honestly and prudently invested. Their report placed this amount at \$485,718, as contrasted with the total of \$535,000 representing outstanding stock and indebtedness, the shortage being about \$50,000. Since the company has a small profit and loss surplus, this excess of indebtedness cannot be accounted for as money borrowed to meet expenses or fixed charges. Upon present evidence, therefore, the Commission is unable to conclude that all of the short-time notes represent investment upon which the company is fairly entitled to a return, and must limit this finding to \$210,000 out of the total of \$260,000.

The engineers found the property in very fair condition. Some of the track is in need of speedy repair, but on the whole the railway is in better condition than the average throughout the state at the present time. The balance sheet given above shows that on December 31, 1917, the cash balance was relatively very large and that the operating reserve and corporate surplus were

in this form, a fact financially favorable to the company under present conditions.

The company estimates that the proposed new fares would produce a gain in revenue of about \$46,500 per year. This estimate was based upon a traffic study made on a supposedly typical day. It probably is no more accurate than such estimates usually are, but experience does not lead the Commission to believe that the gain would be likely to exceed the company's figure. The assumptions used in the estimate appear to be reasonable, and no doubt the traffic observations were carefully made.

Evidence of the need for such an increase was offered in the following estimate of revenue required in 1918: —

	Actual, 1917.	Estimated, 1918.
Operating expenses,	\$171,534	\$192,363
Depreciation allowance,	—	16,613
Taxes,	6,396	6,400
Return on investment,	14,300	32,794
Contingency allowance,	—	2,507
Total,	\$192,230	\$250,677

Considering these items in order: —

1. *Operating Expense.* — The estimate, divided into the five main divisions of expense, was as follows: —

	Actual, 1917.	Estimated, 1918.
Way and structures,	\$17,234	\$30,290
Equipment,	110	110
Power,	44,143	45,633
Conducting transportation,	67,234	72,810
Traffic,	400	410
General and miscellaneous,	42,413	43,110
Total,	\$171,534	\$192,363

It will be seen that the largest increase was estimated in the item of maintenance of "Way and Structures." Inquiry developed that this was based on average needs for tie and line renewal, and upon the relaying of about one mile of rail in North Attleborough.

If the track is to be maintained in good condition, the estimate is not unreasonable, but it has a bearing, which will be considered below, upon the allowance for depreciation.

Since power is purchased from the Rhode Island Company at a stated rate per car mile, practically the only increase estimated was in connection with the maintenance of the transmission system. The rate per car mile is 5.65 cents. Ordinarily this would be high, but under present conditions it cannot be regarded as excessive. In 1917, the adjoining Milford, Attleborough and Woonsocket road, which manufactures its own power, paid 6.36 cents per car mile, without including depreciation or capital charges. These latter charges the Interstate Consolidated in large measure escapes, since it owns no generating plant. No allowance, however, was made for the saving in power which should result from the curtailment of service and of car heat which has been effected during the current year. For hire of rolling stock the Interstate Consolidated pays the Rhode Island Company $2\frac{1}{2}$ cents per car mile, a figure which is reasonable under present conditions.

In "General and Miscellaneous Expense," \$15,300 is included for "Injuries and Damages." In 1917 this amount was \$15,324, and it seems to have been determined by charging an arbitrary 8 per cent of transportation revenue. Of the amount, \$9,898 was not actually paid out, but was added to the "Accident and Casualty Reserve." Considering the size of the road, this was a large addition to the reserve fund, and the total charge for "Injuries and Damages" was relatively larger than most companies find it necessary to make. A charge equal to 5 per cent of transportation revenue should, we feel, be ample under present conditions, unless there are outstanding unusually large claims for damages, and no evidence to this effect was offered. The estimate for "Salaries and Expenses of General Officers," which also forms a part of "General and Miscellaneous Expense," was but \$1,520. The smallness of this item is due to the fact that the company is managed by the same executive officers as the other street railways controlled by the New England Investment and Security Company, the salaries being pro-rated in proportion to gross receipts.

In one respect the estimate of operating expense was unduly conservative. Only \$5,000 was allowed for increase in wages, whereas in the arbitration award subsequently made by Mr. Henry B. Endicott, executive manager of the Public Safety Com-

mittee of Massachusetts, which became effective on June 30, 1918, an increase was granted which the company estimates will amount, even under the curtailed operating schedule, to \$27,587 per year. The maximum wage for motormen and conductors has been raised by this award from 34½ cents to 43 cents per hour.

To sum up the matter of operating expense, if an allowance be made for a saving of about \$5,000 per year in the "Injuries and Damages" item, and for a saving of about \$8,000 in power consumption (based upon results for the first five months in 1918), and if a further allowance of \$22,500 be made for increased wages, over and above the amount estimated by the company, the result is a net increase of \$9,500, raising the total estimate of yearly operating expense from \$192,363 to \$201,863.

2. *Depreciation Allowance.* — The estimate for this item has been made up as follows: —

Road, track and line,	\$15,260
Power station and equipment,	662
Shops, carhouses, etc.,	691
	<hr/>
Total,	\$16,613

This estimate has been built upon the book value of the property, along lines similar to those followed by the Commission in the Springfield Rate Case decided March 30, 1918. Since the company owns no rolling stock and no power generating stations less provision is necessary for depreciation than would otherwise be the case. The appraisal made by the engineers of the Commission, moreover, indicates that the book value of the property is in excess of reasonable original cost, and it further appears that, in its estimate of expense necessary for maintenance of "Way and Structures," the company has made an allowance for renewals of ties, rails and overhead construction which would be chargeable against a depreciation reserve. Without undertaking a detailed analysis, therefore, the Commission is of the opinion that a further allowance of \$4,000 for depreciation, instead of the \$16,613, estimated by the company, would probably be sufficient under all the circumstances. Heretofore, beyond maintaining the railway in reasonably good condition, the company has made no provision whatever for depreciation.

3. *Taxes, Return on Investment, Contingency Allowance.* — No increase has been estimated in the case of taxes, and the contingency allowance has been adjudged reasonable by the Com-

mission in other cases. The return on investment is placed at 6 per cent of the book value of the physical property. The actual return in 1917, as shown in the table, is merely interest paid upon indebtedness, since no dividends were declared upon the stock. As already shown, the engineers of the Commission have been able to discover investment sufficient to cover but \$210,000 of the floating indebtedness. The yearly interest upon this sum at the stated rate of $5\frac{1}{2}$ per cent, plus 6 per cent upon the outstanding stock, would amount to \$28,050 instead of the \$32,794 estimated by the company.

With the modifications thus indicated, the yearly revenue requirements at the present time may be stated as follows:—

Operating expenses,	\$201,863
Depreciation allowance,	4,000
Taxes,	6,400
Return on investment,	28,050
Contingency allowance,	2,427
<hr/>	
Total,	\$242,740

The actual income in 1917 was \$195,697, or \$47,043 less than the amount shown by this table to be required. Aside from the increase of passenger fares, there are only two other possible sources of additional revenue. One is the freight and express business. This traffic is increasing and the rates have recently been raised about 25 per cent. It is reasonable, therefore, to expect a gain in revenue from this source of at least \$5,000, and it seems likely to prove even larger.

The other possible source is the joint traffic with the Attleborough Branch Railroad Company. Much stress was laid upon this matter by certain of the remonstrants. This railroad, popularly known as the "Gee Whiz" line, parallels the Interstate Consolidated between North Attleborough and Attleboro. Passenger service is furnished by both routes, which are under the same management, but the cars which operate over the Attleborough Branch use the Interstate Consolidated tracks in entering both Attleboro and North Attleborough. The running time is shorter by this route, since it has the advantage of private right of way, and it is probably for this reason that it is used for much of the extra service in the morning and evening between the two communities. Out of every fare collected upon it, $3\frac{3}{4}$ cents go to the Attleborough Branch Railroad Company and $1\frac{1}{4}$ cents to the Interstate Consolidated Street Railway Company.

The remonstrants claimed that this division is unfair to the Interstate Consolidated, since more than one-quarter of the mileage is over its tracks, and that traffic is diverted to the "Gee Whiz" route to the financial detriment of the Interstate Consolidated. The management replied that it is indifferent as to the precise manner in which the division is made, and would accept any change in this respect which the Commission might feel is reasonable. Investigation shows that the distance between Attleboro and North Attleborough via this route is 5.01 miles, and that 3.21 miles of this is over Attleborough Branch railroad tracks and 1.80 over Interstate Consolidated tracks. While the fare is divided on a 25-75 basis, the proportion based on distance covered is 36-64. Each company, furthermore, pays the wages of the crews while they are on its tracks, and the elapsed time is relatively longer on the Interstate Consolidated portion of the route, since it includes the terminals, and operation through the public streets is slower than on private right of way. In view of all the circumstances, we are of the opinion that the fare might reasonably be divided upon a 45-55 basis, 55 per cent going to the Attleborough Branch Railroad Company and 45 per cent to the Interstate Consolidated. The latter's receipts from this source last year were about \$7,900. If it had received 45 per cent, instead of 25 per cent, this amount would have been increased by about \$6,300.

Summing up this matter of revenue, it is probable that the freight and express receipts may increase at least \$5,000 during the year, and that about \$6,300 could be added to the passenger revenue if a more equitable division of receipts with the Attleborough Branch Railroad Company were made. If the Interstate Consolidated, besides these increases, could add \$46,500 to the operating revenue which it received last year by adopting the proposed new tariff, its total income would be \$253,497, which is about \$10,000 in excess of the estimate of revenue required.

It remains to determine whether or not the desired increase in rates, in view of the facts above stated, may reasonably be allowed. The remonstrants conceded that some increase was necessary, but felt that the proposed schedule, which would raise the fares in some cases 100 per cent, was excessive. The mayor of Attleboro offered an alternative plan, which was, in brief, to retain the new zones proposed by the company, but to make the fare, on a ride covering two zones, 2 cents or 3 cents in the second zone instead of 5 cents. Under this plan, for example, the fare between Plainville and Attleboro or between Attleboro and

the State line would be 7 cents or 8 cents instead of 10 cents. As nearly as we can estimate, this plan, if adopted on all lines and if the fare in the second zone were placed at 3 cents, would yield about \$25,000 additional revenue. This estimate has been made upon the basis of the same traffic figures as were used by the company in its estimate of \$46,500 gain under its own plan, assuming, however, a somewhat smaller traffic loss.

Upon consideration, the Commission is of the opinion that this alternative plan ought not to be adopted, and that the company's tariff, with minor modifications, is just and reasonable under present conditions. The reasons which have led us to this conclusion are as follows: —

(1) The fares proposed by the company, in comparison with those now charged by other companies in the state, are not high. The present zones are very long, so that rides can be obtained in many cases at a rate of about one cent per mile. Under the new tariff, a minimum fare of 5 cents would be retained, although many other companies now have a minimum of 6 cents or 7 cents. Taking the city of Attleboro as a center, it would be possible to ride 4.12 miles in one direction, 3.66 miles in another, and 2.16 miles in still another, for this minimum fare of 5 cents. This is far more favorable than the schedule now in effect on the Bay State system, where the inner zones in the cities, which have in general much larger populations than Attleboro, have a radius of from $1\frac{1}{2}$ to 2 miles, and where the minimum cash fare is 6 cents and the tickets sold at a lower rate are good only to or from the traffic center. It is also more favorable than a mileage system at the rate of $2\frac{1}{2}$ cents or even 2 cents per mile, with a minimum fare of 6 cents, such as is now in effect on various other lines.

(2) While the new tariff might, if no modifications were made, if the estimated gain proved correct and if additional revenue is secured from the freight and express business and from a better division of receipts with the Attleborough Branch Railroad Company, yield somewhat more than the estimate of revenue required, it is decidedly improbable that this would be the result. So far as we are aware, no company in this state has yet secured from an increase in fares the gain estimated before the increase became effective, and existing conditions are now more unfavorable than they have been in the past. In the first six months of this year, the passenger revenue on this road was \$75,705.56, as compared with \$82,004.85 in the corresponding period of 1917, a decrease of \$6,299.29.

(3) The modifications in the schedule which are recommended below will reduce the gain estimated by the company.

One defect in the proposed tariff, it seems to us, lies in the fact that the fare zones in no case overlap and that transfer privileges are entirely eliminated. The result would be that 10

cents would be charged for even a very short ride in the thickly settled portion of Attleboro, which passed the traffic center at the railroad station, and the same would be true of North Attleborough and South Attleborough. In the judgment of the Commission the tariff should be modified to correct this defect. We do not now undertake to say exactly what form this modification should take, but leave this matter to be determined in conference with the officials of the company. The change, when agreed upon, may be made by a supplement to the tariff now on file, which will then be permitted to take effect on short notice.

A further and more serious defect, which, however, is beyond the jurisdiction of this Commission, relates to the charge between Orr's Corner in South Attleborough, and adjacent points, and Pawtucket. Under the new tariff this fare would be 10 cents for a ride of about $3\frac{1}{2}$ miles, since the traffic center of Pawtucket is less than one mile from the State line. If there were but one company and no State boundary, we have no doubt that a lower fare than this would be deemed reasonable even by the management, and we believe that the Rhode Island Company and the Interstate Consolidated Street Railway Company ought, as matters now stand, to be able to agree upon some joint ticket arrangement which would offer a fare of, say, 7 cents to regular riders. We strongly recommend that the Interstate Consolidated company use its best endeavors to bring about such an arrangement. South Attleborough is closely associated in a business way, with Pawtucket, and the proposed 10-cent fare would, in our opinion, be an unreasonable hardship for many workingmen. If no agreement can voluntarily be reached upon this point by the two companies, it is possible that an adjustment can be secured by an appeal to the Interstate Commerce Commission, and this Commission will be ready to lend its aid to such an appeal. We feel confident, however, that this action will not be necessary. If a joint ticket is provided, it should, in our opinion, be available for use in connection with through traffic from points north of South Attleborough.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 14, 1918.

[P. S. C. 2162]

Secretary.

BAY STATE RATE CASES.

Notices of Bay State Street Railway Company of proposed changes in the rates of fare for passengers upon its railway and, in reduced-rate workingmen's, commutation and excursion tickets, as set forth in schedules numbered M. P. S. C. 62, 75 and 77, with supplements thereto.

SAMUEL H. PILLSBURY for Bay State Street Railway Company.

JOHN T. CROWLEY for Town of Abington.

HARRY M. EAMES }
DANIEL J. MURPHY } for Town of Andover.

JOHN F. GEARY for Town of Avon.

JAMES H. MCPHERSON }
THOMAS S. SULLIVAN } for City of Beverly.

WILLIAM L. GLEASON }
W. M. WILBAR } for City of Brockton.

E. C. JEWETT for Brockton Chamber of Commerce.

E. GERRY BROWN for Brockton Chamber of Commerce and certain labor organizations.

WALTER PERHAM for Town of Chelmsford.

EDWARD E. WILLARD }
LOUIS E. KIERNAN } for City of Chelsea.
JOHN E. BECK }

HARRY E. JACKSON }
R. D. LYNCH } for Town of Danvers.

JOSEPH MURDOCK for Town of Dedham.

JOSEPH E. WARNER }
H. F. HATHAWAY } for Town of Dighton.

WARREN W. COX for Town of Dracut.

EZRA S. WHITMARSH }
FRED P. WHITMARSH } for Town of East Bridgewater.
CLARENCE P. MITCHELL }

HENRY W. HEATH }
JAMES E. HOWARD } for Town of Easton

ALBION RIGGS }
FRANK E. RAYMOND } for Town of Essex.
AARON COGSWELL }

- RALPH S. BAUER for Essex County Chambers of Commerce.
JAMES H. KAY }
GEORGE GRIME } for City of Fall River.
ARTHUR L. NASON for Towns of Georgetown and Groveland.
JOHN A. STODDART }
M. FRANCIS BUCKLEY } for City of Gloucester.
LESLIE K. MORSE }
ESSEX S. ABBOTT } for City of Haverhill.
ARTHUR L. NASON }
R. C. JOHNSON for Haverhill Chamber of Commerce and Haverhill Shoe Manufacturers' Association.
GEORGE F. MARSH for Town of Hingham.
LOUIS E. FLYE for Town of Holbrook.
FRANK B. WILLIAMS for Town of Lakeville.
DANIEL J. MURPHY }
ARTHUR BOWER } for City of Lawrence.
WALTER H. CREAMER }
ARTHUR G. WADLEIGH } for City of Lynn.
RAYMOND H. TREFRY for Town of Marblehead.
CHARLES H. ADAMS }
ARTHUR S. DAVIS } for City of Melrose.
SAMUEL RUSHTON }
W. L. STEDMAN } for City of Methuen.
FRANKLIN PORTER }
A. T. HOWE } for Town of Middleton.
LINCOLN BRYANT for Town of Milton.
SAMUEL W. WRAGG }
ROBERT B. HILL } for Town of Needham.
DANIEL L. SMITH for Needham Board of Trade.
CARLTON A. PERRY for Needhamdale Improvement Association.
WALTER B. HOPKINSON for City of Newburyport.
CHARLES A. QUINT for Town of North Reading.
JAMES A. HALLORAN for Town of Norwood.
GEORGE W. NEWMAN for Norwood Board of Trade.
HORACE P. FARNHAM }
WILLIAM A. SHEA } for City of Peabody.
EVERETT C. BUMPUS for City of Quincy.
JEREMIAH J. DESMOND }
WALTER F. STEVENS } for Town of Randolph.
GEORGE W. HOLDEN }
BENTON H. MONROE } for Town of Rehoboth.
ANDREW A. CASASSA for City of Revere.

B. J. FITZGERALD for Town of Rockland.
 D. M. O'BRIEN }
 W. B. FRENCH } for Rockland Commercial Club.
 J. MANUEL MARSHALL }
 JOHN H. DENNIS } for Town of Rockport.
 DENNIS J. SULLIVAN }
 MICHAEL L. SULLIVAN } for City of Salem.
 GEORGE L. NOURSE for Town of Saugus.
 FERNALD L. HANSON }
 FRANKLIN S. SIMMONS } for Town of Somerset.
 LEANDER V. COLAHAN }
 H. H. RICHARDSON } for Town of Stoneham.
 JAMES A. RILEY for Town of Stoughton and Stoughton Board of Trade.
 JAMES W. SANTRY for Town of Swampscott.
 JOHN B. TRACY for City of Taunton.
 M. E. S. CLEMONS for Town of Wakefield.
 O. F. KINNEY }
 JAMES A. HEMMENWAY } for Town of West Bridgewater.
 JOHN F. BOWEN for Town of West Newbury.
 EDWIN C. JENNEY for Town of Westwood.
 ALBERT P. WORTHEN for Town of Weymouth.
 CHARLES F. DUTCH for Town of Winchester.
 T. F. KINNEALY }
 CLARENCE W. HARDING } for Town of Whitman.
 WILFORD D. GRAY for City of Woburn.
 ISRAEL BRAYTON for Swansea and Seekonk Street Railway Company.
 WHITFIELD L. TUCK for Pomona Grange, Patrons of Husbandry.
 GARDNER W. PEARSON for certain stockholders of the Massachusetts Electric Companies.

REPORT.

Under date of August 31, 1916 (4 P. S. C. Rep., pp. 3-105), the Commission permitted the Bay State Street Railway Company to increase the unit of cash fare from 5 cents to 6 cents on all its lines except those operating in the larger urban districts. This change became effective October 9-16, 1916, upon the understanding, stated in the Commission's report, that if, "after the expiration of not less than one year under the new rate schedule, the situation might appear either to the company or to the public to warrant a further revision of rates, the Commission

is prepared upon application to deal with the situation anew in the light of conditions then prevailing." It was further stated: —

. . . With respect to reduced fare tickets, the Commission doubts its authority, in general, to require the company to put into effect, or continue, concessions over the regular rates of fare, but reserves the right, before approving any new schedule of fares, to consider the propriety and advisability of the discontinuance of such concessions in certain cases.

During the months which followed, the rise in prices caused by war conditions produced so unfavorable an effect upon the company's finances that the Commission allowed the question of increased rates to be reopened before the expiration of the trial period of one year, and on July 3, 1917 (5 P. S. C. Rep., pp. 39-46), authorized the company to increase the unit of cash fare from 5 cents to 6 cents in the urban districts excepted in its former decision, with the proviso that tickets at the rate of 20 for \$1 should be sold in these districts, good within a somewhat reduced area, as compared with the cash fare, at all times except Sundays, holidays and Saturday afternoons. This decision was based upon an agreement reached, after conferences, between the company and representatives of a majority of the cities affected, and it was a part of the understanding that the new schedule was to be regarded as "experimental" and that actual results were to be "tested and investigated without prejudice at the end of a six months' period."

Since this decision, the officers of the company, which has been in receiver's hands since December 13, 1917, have made a comprehensive study of the entire situation, with a view to adopting, with the approval of the Commission, a wholly new rate structure intended to produce a further large increase in revenue and at the same time to place rates throughout the system upon a logical and consistent basis. The schedules now under consideration are the result of this study.

The present rate structure is based upon no well-defined plan. The manner of its development is indicated in the following passage from a decision of the Board of Railroad Commissioners in 1904 (36 R.R. Comm. Rep., pp. 22, 23): —

The five-cent fare was established on street railways when in the main these were local enterprises. It was a fare convenient for collection, one which tended to promote the general welfare by encouraging a wider distribution of homes in thickly settled communities, and one which served the public on the whole acceptably. With the same fare for every-

body, companies found in the multitude of short rides compensation for the low rate for the long ride, so the average result furnished a reasonable return.

As a consequence of the consolidation of railways, of concessions made by the companies, and of action taken by the Board, the limits of the five-cent fare have been from time to time largely extended. The Board has recommended this fare generally within town boundaries, and in some cases between the centers of the larger municipalities and the centers of adjoining towns, an arrangement which happily works to the advantage of those who travel daily to and from their work. In brief, for one reason and another, the five-cent fare has been made to apply to travel for widely differing distances, in order to meet a great variety of local conditions.

With the taking on of an interurban service, companies have introduced a so-called through fare, subdivided into five-cent fares collected at fixed points. These fare limits are not always co-extensive with the local fare limits, a fact which has given rise to the suggestion of discrimination against through passengers. But it is to be borne in mind that the interurban business is often the development of the long distance patronage, without a corresponding development of the more profitable short distance riding, and that if comparison of fares is to be made, it should be between the through fare and the average local fare.

The unit of cash fare is now 6 cents. As a rule, the city districts have what may be termed two zones, — an inner zone, in which free transfers are given, and an outer zone, in which the unit fare carries only to and from the city center, or intermediate points, without transfer privileges. There are marked variations in the maximum length of haul for a single fare. The interurban lines are divided into zones of varying lengths which frequently overlap to avoid the charging of a double fare for local rides of short distance. North of Boston the longest zone on such lines is 7.93 miles in length and the shortest, 1.26 miles. South of Boston the longest distance is 7.02 miles and the shortest, 1.37 miles. In a comparatively large number of cases reduced-rate tickets are sold, giving rides at less than the cash rate through two or, in some instances, three zones. Most of these are known as "workmen's tickets," and are good only during certain hours of the morning and evening on working days. Others, which are good all day long or only in the afternoon rush hours, have been styled by the company "commutation tickets." There are 50 of the former class and 23 of the latter. For the most part they have been introduced to accommodate regular travel of comparatively large volume which the company felt was entitled, by reason of local conditions, to some concession over the cash rates.

The new schedules apply somewhat different treatment to the urban and suburban lines, as distinguished from the interurban. Schedule No. 77 deals with the former and schedule No. 75 with the latter. In all the cities which the company serves, excepting three of the smaller communities — Gloucester, Woburn and the Hyde Park district of Boston — a new inner zone is created of greatly restricted area, the radius averaging more than $1\frac{1}{2}$ miles but less than 2 miles. Outside this zone, but, as a rule, within the limits of the present free transfer territory, a second zone is created, its width varying, but averaging, it seems, about 1 mile. The two zones are intended together to cover the congested city territory with its accompanying suburban fringe. Under schedule No. 77, as filed, the fare within the inner area is 6 cents, with free transfer privileges at the center, no tickets at a lower rate being sold. The cash fare between any point in the outer zone and any point in the inner zone is 8 cents, but 6 tickets are sold for 45 cents, or at the rate of $7\frac{1}{2}$ cents each, which can be used for such rides in lieu of a cash fare.

Since this schedule was filed, however, the company has agreed, after conferences with representatives of the cities affected, to certain changes which were stated in the memorandum embodying the agreement as follows: —

The company is to sell 6 tickets for 30 cents, good only on local rides but good at all times to and from the center or transfer point in the first zone. No transfers will be issued and no rides through center allowed on these tickets. The company is to sell 7 tickets for 50 cents and these are to be good in exactly the same manner to and from the center of the first zone to any part of the second zone.

No other all-day tickets will be issued in these two zones. Through riders and riders desiring transfers at the center of the first zone, as filed in Schedule 77, will pay 6-cent cash fares in the first zone and 2-cent cash fares in the second zone, making a total of 8 cents.

In addition to the above tickets, the company will experimentally add the following tickets designed to build up traffic in the "off-peak" hours in the middle of the day. These tickets will be sold as follows: —

Six tickets for 25 cents, good only on local rides to and from the center of the first zone. No transfers or through rides will be allowed on these tickets.

Four tickets for 25 cents, good in the same manner to the center of the first zone from the second zone. These "off-peak" tickets will be good as follows: —

From 9 A.M. to 4.30 P.M. on week days (except Saturday), subject to change to 4 P.M. in any locality, if it becomes necessary on account of changes in industrial closing hours to avoid overlapping with the peak load.

From 9 A.M. to 6.30 P.M. on Saturdays.

These "off-peak" tickets will not be good on Sundays or holidays. None of these tickets will be good on through rides which extend outside the first and second zones.

It will be seen that, under this agreement, the 5-cent rate is restored, by the use of tickets, for rides within the inner area which do not extend beyond the center, and that the $7\frac{1}{2}$ -cent ticket to and from points in the outer zone, with transfer privileges, is superseded by a $7\frac{1}{4}$ -cent ticket, without transfer privileges. The agreement also sanctions the practice, new to this commonwealth, of charging less than the regular rate in the "off-peak" hours, when traffic is slack. Within the inner zone this rate would be $4\frac{1}{2}$ cents, the corresponding rate to and from points in the outer area being $6\frac{1}{2}$ cents.

As above stated, the smaller communities of Gloucester, Woburn and Hyde Park are exceptions to this city schedule. In Woburn, the regular interurban fares, covered by schedule No. 75 and described below, apply. In the two other communities, a central area is provided, somewhat larger than the inner area in the other cities and having no outer zone. The fare within this central area is 6 cents with full transfer privileges, but no reduced-rate tickets are provided.

In the case of Beverly, Peabody and Salem the central zones overlap. The Salem zone reaches to the centers of the other two cities, while their zones extend to Town House Square in Salem. The portions of the Beverly and Peabody zones which do not overlap in this way form a part of the Salem outer zone, but neither Beverly nor Peabody has an outer zone of its own in which the $7\frac{1}{2}$ -cent or $7\frac{1}{4}$ -cent tickets may be used, except so far as the balance of the Salem inner area constitutes such a zone. On the other lines extending beyond the central area the regular interurban mileage rates apply. A somewhat similar situation exists in the case of Melrose, Malden and Chelsea, the Malden central zone overlapping both of the others. The Chelsea zone has been elongated so that it will reach to the Scollay Square terminus in Boston, and on the line passing through Chelsea, between Boston and Lynn, schedule No. 77 provides for tickets sold at the rate of 8 for \$1, making a charge per ride of $12\frac{1}{2}$ cents where the cash fare would be 18 cents. These special tickets are introduced to meet the competition of the Boston and Maine railroad and of the Boston, Revere Beach and Lynn narrow gauge road between Boston and Lynn.

Schedule No. 75 covers the interurban lines, so far as they are located outside of city zones, and places them upon a definite mileage basis, following the plan approved by this Commission last year in the Concord, Maynard and Hudson and the Boston and Worcester cases (5 P. S. C. Rep., pp. 47-75), and recently approved for the Northern Massachusetts company and certain lines operated by the Springfield company. Under this system, which has been called the "copper zone" plan, a line is divided into sections which approximate 1 mile each, and rates are based upon a certain charge per section. When a passenger boards a car he tells the conductor his destination and pays a fare based on the distance to be covered, receiving a voucher in return which he surrenders at the end of his journey. The sections vary somewhat in length, in this instance, according to local conditions, but average about 1 mile. In other cases in the state where this plan has been adopted the rate per section has been fixed at 2 cents per mile. In the present case, higher rates have been adopted on lines of low traffic density and earning power. Out of 403 miles of main track outside the outer city zones, the rate is 2 cents on 249 miles, $2\frac{1}{2}$ cents on 37 miles and 3 cents on 117 miles.

The third schedule, No. 62, relates entirely to the special reduced-rate tickets now in existence. The company has eliminated all such tickets for which there seemed, in its opinion, to be no reasonable present need, and has attempted to place the remainder on a uniform basis. Out of the total of 73, the number retained is 49. The use of these tickets has been confined in all cases to the morning and evening rush hours, and the rate is made 70 per cent of the regular cash rate.

Schedule No. 62 was filed last summer as a sequel of the decision of the Commission dated August 31, 1916, in which the question of reduced-rate tickets was left in abeyance. At the time of the filing of this schedule the officers of the company had entered upon, but had not finished, the study of the situation which led finally to the conclusion that the whole rate structure ought to be radically revised. When this conclusion was reached it was felt, both by the Commission and by the company, that any such revision might necessitate a further readjustment of the so-called "workingmen's tickets," and for this reason action upon schedule No. 62 was suspended pending the consideration of the larger underlying issue.

Schedule No. 75, applying in interurban territory, was issued on October 9, 1917, to become effective on November 9, 1917.

At the time of its filing and of the subsequent hearings, which were held in November, the company had not decided what new rates it desired to put into effect in the city districts. It was pointed out by the remonstrants that many complexities would arise in attempting to adjust a new system of fares on the inter-urban lines to the existing system in the cities, and for this reason it was deemed advisable by the Commission, a conclusion in which the company concurred, not to attempt to deal with the situation piecemeal, but to postpone action on schedule No. 75 until the company was prepared to submit its proposed new rates in city and suburban territory for consideration.

Schedule No. 77, containing such rates, was issued on March 27, 1918, to become effective April 26, 1918. Public hearings were held on April 4-5, were suspended until April 15 to allow time for conferences between the company and representatives of the cities affected, and were concluded April 23-25, after all the communities had been given an opportunity to consider the compromise plan suggested as a result of these conferences. In the meantime, the operation of all three schedules was suspended by the Commission until June 16, 1918.

The company's estimate of the yearly increase in revenue which it might reasonably anticipate from the three new schedules, as originally filed, was as follows: —

Schedule No. 62,	\$231,000
Schedule No. 75,	490,000
Schedule No. 77,	1,300,000
	<hr/>
Total,	\$2,021,000

On the basis of the gross income received by the company within the commonwealth in the year ended December 31, 1917, this was an increase of 19.8 per cent. In the opinion of the company, if the compromise plan is accepted the increase in revenue will be somewhat reduced, as follows: —

Schedule No. 62,	\$231,000
Schedule No. 75,	490,000
Schedule No. 77,	950,000
	<hr/>
Total,	\$1,671,000

While these estimates doubtless represent the best judgment of the company, they have no mathematical accuracy and are based

upon assumptions. In all cases allowance has been made for probable loss in traffic due to the advance in charges, for the percentage of increase in rates is much higher than the estimated percentage of increase in revenue. If the traffic loss should prove greater than the company has assumed, the gain in revenue would be less than the estimate, perhaps much less. On the other hand, if the loss in traffic should be less than anticipated, or should be offset in part by a gain in short-haul business resulting from the low ticket rates of the compromise agreement, the actual results might be better than now seems probable.

The difficulty in estimating the probable gain in revenue from an increase in rates may be illustrated by what has already taken place. Since September, 1916, the company has, on three different occasions, been permitted by the Commission to raise fares on its Massachusetts lines. The first increase went into effect on October 9-16, 1916, and covered all the interurban lines and the city lines in Woburn and Gloucester. It was felt that it would yield about \$350,000 increase in revenue. The second increase was in Fall River, where the reduced-fare tickets sold at the rate of 6 for 25 cents were eliminated on March 15, 1917, the company estimating that this change would produce about \$50,000 additional revenue. The third increase went into effect on July 15, 1917, and covered all the city lines not included in the first advance. The probable increase in revenue was placed by the company at \$720,000. The total gain expected from all three increases was thus about \$1,120,000, a conservative estimate in view of the fact that rates were increased, on the average, very nearly 20 per cent all over the system. While provision was made for the sale of tickets at the rate of 20 for \$1 in the city districts, in practice less than 30 per cent of the riders in these districts have used these tickets.

Since July 15, 1917, all three of the increases have been in effect. In the ten months beginning July 1, 1917, and ending April 30, 1918, the records show that the total passenger revenue for the whole system was \$8,257,357, as compared with \$8,060,280 during the same period in the previous year, a gain of \$197,077. At the same rate the gain for the entire year would be \$236,492. During a portion of the 1916-17 period, however, the first two increases were in force. In the same ten months in 1915-16, when the unit fare on all lines was 5 cents, the passenger revenue was \$7,537,891. Compared with this revenue, the gain in 1917-18 under the increased rates was \$719,466, or at the rate of

\$863,359 for an entire year. This gain, however, was hardly more than might have been expected from two years' increase in traffic without any change in fares and, notwithstanding the two years' gap, falls considerably short of the \$1,120,000 estimated as shown above.

Too much stress, perhaps, should not be laid upon these figures, for conditions have been very abnormal and it is dangerous to be dogmatic in drawing conclusions. Traffic on most of the street railways in the state fell off in the winter months of this year, owing to the severe weather conditions and the reduction in service and in car heat caused by the shortage of coal. The company estimates, also, that about 34,000 men in its territory have gone into the army and that the loss in revenue on this account probably amounts to more than \$300,000 per year. On the other hand, the war has caused unusual activity among the industries all over the territory, an activity which has led to an influx of population at certain points, notably at Fore River and at Newport, Rhode Island. Taking the period from July 15 to October 6, the company made a careful study of traffic, with a view to determining, to the best of its ability, the actual results from the increase in fares, after allowing for all abnormal conditions, such as unusual business activity or depression, strikes, jitneys and the state of the weather. From this study the conclusion was reached that all three increases in rates had produced a gain in gross revenue, after making all reasonable allowances, of about \$792,000 per year, or in the vicinity of 8 per cent. While this estimate, however, was no doubt made in all good faith, the supporting evidence is not especially impressive and at best it amounts to little more than an intelligent guess.

The raise in fares is sought on account of the recent heavy increases in operating expense. The chief item is the cost of coal. The following table shows the average cost of coal paid by the company in the last few years: —

YEAR ENDED —	Price (Per Ton).
June 30, 1914,	\$3 70
June 30, 1915,	3 55
June 30, 1916,	3 80
December 31, 1916,	4 11
December 31, 1917,	6 34

The cost in 1918 bids fair to be still higher. The company estimates that the price will average \$10 per ton, basing this estimate on the fact that the Fuel Administrator desires the company to use water-borne, rather than all-rail, coal, since its plants are located within 50 miles of tidewater, and on the further fact that the cost of water transportation is likely to rise even above the present high figure. It is quite possible that the company will be able to do better than this, but under present conditions there can be no assurance of a more favorable price.

Wages, also, have increased sharply. Under the agreement with the men which was made in 1916, an increase of \$65,000 went into effect last May. Early in this year the company agreed to pay its employees, in addition, a special war bonus amounting to about \$300,000 per year. Unrest caused by the continued rise in the cost of living and the fact that many men have been leaving to secure higher wages paid in other employments resulted very recently in a further agreement, effective June 10, under which the men are to receive an additional \$750,000 per year. Prices of materials and supplies have increased almost in proportion to the increase in the cost of coal.

The following table shows the increase in operating expenses, excluding depreciation, which has taken place on the Massachusetts lines since 1914: —

YEAR ENDED —	Operating Expenses.	Increase.	Operating Expenses per Car Mile (Cents).
June 30, 1914,	\$5,646,034	—	18.72
June 30, 1915,	5,803,875	\$157,641	19.05
June 30, 1916,	6,462,974	659,299	20.66
June 30, 1917,	7,429,060	966,086	23.22
December 31, 1917,	7,913,252	484,192	25.06
December 31, 1918 (estimated),	8,747,871	834,419	29.00

This table is somewhat distorted by the fact that it includes the amount actually expended for injuries and damages, rather than the amount charged to operating expense. In certain years a portion of the injury and damage expense has been charged to a reserve fund and in others the amount charged to operating expense has gone in part into this fund. The expenses for 1918 are estimated, the increase being due chiefly to coal and wages and

additional work deemed unavoidable on roadbed and track. The wage increase of \$750,000, effective June 10, is not included.

In the year ended December 31, 1917, the income of the entire system exceeded by \$140,211 the amount sufficient to pay operating expenses, taxes, interest and dividends of 3 per cent (one-half the stated rate) on preferred stock. No dividends, however, were paid or earned on the common stock and the appropriation for depreciation reserve was but \$120,000, an inadequate amount. At the hearings, the revenue needs of the Massachusetts portion of the property in 1918 were placed by the receiver as follows: —

Operating expenses,	\$8,747,671
Taxes,	482,292
Depreciation,	1,075,800
Return on investment at 6 per cent,	2,404,492
Total charges,	\$12,710,255
Gross income,	10,507,488
Additional revenue required,	\$2,202,767

These figures are, of course, based in substantial measure on estimates, but it cannot be said that the estimates are unreasonable. The amount for operating expenses does not include the recent wage increase of \$750,000. Aside from this increase, the estimate is high, but general conditions are adverse and seem likely to grow worse, rather than better. Gross income is also an estimate, and allowance is made for an increase of about \$300,000 above the previous year, resulting from growth in traffic if present fares should be continued. As a matter of fact, however, the actual operating results for five months ending May 31, 1918, show receipts approximately \$260,000 less, and expenses approximately \$60,000 less than estimated. Depreciation requirements were estimated in the manner approved by the Commission in the 1916 rate case, and the return on investment has been fixed in a similar way. Minor criticisms might be made of these amounts, but nothing that would change the final result materially.

There are only three methods by which the company's financial condition may be improved. One is a decrease in operating expenses through greater efficiency in management and operation, or through reduction in service. Another is a lessening of taxation or other public burdens. The third is an increase in revenue, either through the raising of fares or by other means.

The question of economy in operation was considered at length in the first rate case, decided in 1916, and Bion J. Arnold of Chicago was specially employed by the Commission for that purpose. Subsequently Mr. Arnold was employed by the company, in order that the general recommendations which he made in his report to the Commission might be amplified and made more specific. Mr. Robert B. Stearns, former chief executive of the Milwaukee street railway properties, was also brought to New England and made vice-president of the company in charge of operation. Numerous changes have been and are being made, including extensive re-routing in the city districts, reduction in lay-overs and scheduled time, the elimination of many white pole stops, improvements in shop practice and car house arrangement, consolidation of accounting offices, and reduction in service on certain lines of limited patronage. Representatives of the General Electric Company have also been employed to aid in inaugurating a better system of instruction in acceleration and braking, and in the wage settlement of February an arrangement was made under which economies in car operation and accident payments are to be measured and the men are to receive extra compensation corresponding to the results secured. When all these changes are in full effect, it is estimated that about \$400,000 per year will be saved. This estimate is probably conservative. About one-half of this amount had already been secured in 1917 and about \$100,000 additional for reduced schedules and re-routing was included in the company's estimate for 1918.

The evidence indicates that the company has proceeded in good faith to carry out the suggestions made in the Commission's decision in 1916 and that substantial results have been attained, although they have been lost sight of in the rapid advance in prices and wages which has taken place. During the present year the full effect of what has already been done should be realized, and certain other economies are possible. The reduction in the amount of car heating and the further reduction in the number of stopping places, brought about by the recommendations of the Fuel Administrator with a view to the conservation of coal, should result in a saving in expense; and the 200 new cars which have recently been acquired should also make possible enhanced efficiency in operation. Aside from these changes, however, there seems to be little prospect that further improvements can be made without the investment of additional capital. If capital can be secured, a number of further important

improvements are possible, as will later appear, which should not only improve service but save considerable money.

The possible lessening of taxation and other public burdens will be discussed below, in connection with the consideration of the special legislation affecting the company which has recently been enacted. At best, however, such a lessening could only meet in part the company's financial needs.

Coming to the final remedy suggested, under present conditions some substantial increase in revenue is an unavoidable alternative, and the raising of fares is the only important means by which this may be accomplished. The revenue from freight traffic has grown considerably since the war began, but is still, by comparison, of minor consequence. Last year the total income from this source was \$465,078, while the passenger revenue amounted to \$9,952,970. No doubt the company will follow the lead of the steam railroads and increase its freight rates materially, and, if it had the facilities, the possibility of adding to this form of business is now very great. With existing traffic congestion on the steam lines, both shippers and the federal government would welcome the diversion of short-haul business to the electric lines. Unfortunately, however, the car and terminal facilities of the company are limited, and cannot be enlarged without the expenditure of substantial sums of capital, so that, while its freight revenue is likely to continue to grow rather rapidly, there is little chance that this traffic will prove a large factor in bettering the company's financial situation within the immediate future. Some benefit is also likely to come from the recent jitney legislation. Under the new statute, this Commission can, on appeal, protect street railway companies from unfair and unreasonable competition from this source, if they are unable to secure such protection from the local authorities. At certain points in Bay State territory, jitney competition has cut into earnings seriously, and it is possible that public regulation of this matter may have a favorable effect upon income. The financial relief, however, which can be afforded either from an increase in freight revenue or from the restriction of jitney competition, is not of large consequence, and main reliance must be placed upon an increase in passenger fares.

If fares must be raised, the two further questions which arise are whether the new schedules proposed by the company provide for a larger increase in revenue than is necessary and whether they are just and reasonable in their application to the various

sections of the large territory which the company serves. The peculiar characteristics of the Bay State system have been pointed out in other cases. Quoting from the Fall River case (5 P. S. C. Rep., p. 33): —

It is not a simple, homogeneous property, but rather a collection of urban street railway systems scattered all over eastern Massachusetts and tied loosely together by so-called interurban lines which are slow-speed routes located largely along country highways. As stated in the last annual report of the Commission (page xix), "one of the most difficult questions for the Commission to decide was how far this great and complex system, operating in 91 cities and towns, including those in New Hampshire and Rhode Island, ought to be regarded as a single unit for rate-making purposes, and to what extent patrons in the richer territory ought to be called upon to make up deficiencies in the lean."

In presenting its case under schedule No. 75, the company attempted a segregation of earnings on the "country portion" of its Massachusetts property, as distinguished from the "city portion." As then drawn, the line was between the routes covered by the mileage zone system which forms the basis of schedule No. 75, — at that time including Gloucester, — and the city territory not so treated. Since then, schedule No. 77 has cut down the city zones, placing additional track under the mileage zone plan, and a central 6-cent fare area has been created in Gloucester. In making this segregation, an average investment per mile of single track was used to determine the total investment in the country lines. This average investment was based upon the amounts shown in the detail of the Feustel appraisal (used in the 1916 case) for certain typical country lines, and was \$28,700 per mile. The gross income for 1917 was used (two months being estimated, as the exhibit was prepared in November) and the division of income as between the city and country lines was based upon observations made in a traffic survey of the entire system. In dividing operating expenses between the two classes of lines, the expenses on the country lines were figured at the rate of 22 cents per car mile. The total operating expenses in 1917, without including depreciation, averaged 25.08 cents per car mile for all lines, but on most country lines the expense is relatively less than in the city.

Made up in this way, the segregation showed that the "country portion" failed by a small margin to earn operating expenses, and failed by \$1,359,428 to earn all charges and a 6 per cent return

on the estimated investment. The "city portion," however, earned all charges, including full provision for depreciation, and came within \$253,935 of yielding the desired 6 per cent, the return actually earned amounting to 5.08 per cent on the investment. In considering these figures, it should be remembered that the increased fare was operative on the city lines only during the last six months of 1917, while it was in effect on the country lines throughout the year.

While this segregation of financial results as between the two classes of lines is merely an estimate, in the opinion of the Commission it represents a reasonable approximation of the facts. The assumptions were not unfavorable to the country lines, the investment per mile and the operating expense per car mile which were used being relatively low. The segregation shows that the country lines are chiefly responsible for the poor financial condition of the company. The city districts, however, will supply the bulk of the additional revenue if the new schedules are adopted. The following table shows, in the first column, the relative responsibility of the city and country lines for the income deficiency of the company in 1917, according to the segregation submitted; in the second column, the relative amounts of additional revenue to be obtained from the two classes of lines under the new schedules as filed, assuming that each class should be given credit for one-half the increase to be obtained from the change in reduced-rate tickets; and, in the third column, the relative amounts to be obtained under the compromise plan agreed to in the conferences between the company and certain representatives of the city districts: —

	Column No. 1 (Per Cent).	Column No. 2 (Per Cent).	Column No. 3 (Per Cent).
City lines,	15.74	70.04	63.77
Country lines,	84.26	29.96	36.23
	100.00	100.00	100.00

If the segregation were continued, the investigation made in 1916 leaves no doubt that some of the country lines would be shown to be considerably above the average in net earnings and that a rather wide variation would also be disclosed in the earnings of the city districts. It is probable, indeed, that some of these districts have been earning all charges and the full 6 per

cent return upon investment. Upon the evidence it is clear that, in preparing its new schedules of rates, the company has treated the entire property as a unit, without regard to the relative earnings of the various sections, and has proceeded upon the theory that a return of 6 per cent upon the entire investment must in any event be earned and that, if some lines are unable to produce their quota, the deficiency must be made good elsewhere.

Schedule No. 77 undoubtedly provides for very high urban fares. In two recent cases the Commission has allowed street railway companies to adopt a "zone system" in city districts. In the Holyoke case, the radius of the inner zone, taking the distances on the lines which extend beyond this zone, averages about $2\frac{1}{2}$ miles, and in the Springfield case the similar radius averages about 3.2 miles. In both instances the fare within this inner zone is 5 cents with full transfer privileges, and the fare to and from points in the adjacent outer zone, if tickets are used, is $6\frac{1}{2}$ cents. In the present instance, the radius of the inner zone in no case averages 2 miles, and in some cases it is nearer $1\frac{1}{2}$ miles, yet, even under the compromise plan, the cash fare in this inner zone is 6 cents and the 5-cent tickets carry no transfer privileges. The vice-president of the company, Mr. Stearns, who has a wide acquaintance with conditions in other parts of the country, was asked at the hearing whether he knew of any company operating in cities of the size of Lynn, Brockton, Fall River and Lowell which serves, for a 5-cent fare, an area as small as the proposed inner zones under schedule No. 77, and also whether he knew of any company operating in such territory which proposes to increase its fare to 6 cents and reduce the area served to such limits. To both questions he replied in the negative (Record, pp. 87, 88). If this new schedule is approved, it seems, without much question, that the urban fares in the territory served by the Bay State company will be relatively higher than the urban fares charged elsewhere in the country.

How high these fares would be may be shown by another illustration. The city of Woburn, because of its small size, has not been included in schedule No. 77, and the fares on its lines are based upon the mileage zone plan and included in schedule No. 75. If both schedules should be approved, the result would be that from the center of Woburn, from which four lines radiate, one could go 3 miles in any direction for a 6-cent charge. This, however, would be impossible in any of the larger cities. The

minimum fare for a 3-mile ride from the center of any of these cities would be $7\frac{1}{2}$ cents in rush hours and $6\frac{1}{2}$ cents in the "off-peak" hours, even under the compromise plan, and in some instances it would be 10 cents, where the limit of the "outer zone" is less than 3 miles from the center. For similar reasons Gloucester, like Woburn, has been eliminated from schedule No. 77 and a central area created, under which the charge would be 6 cents, with full transfer privileges. Under this arrangement one could go, on any one of the radiating lines, about $2\frac{1}{2}$ miles from the center of Gloucester for 6 cents, a result which would be impossible in the larger cities included in schedule No. 77. Much the same is true of Hyde Park, in which a similar 6-cent central area has been created. The only advantages which the larger cities have over Woburn, Gloucester, and the Hyde Park district of Boston lies in the 5-cent tickets in rush hours and the $4\frac{1}{2}$ -cent tickets in "off-peak" hours, available for short-haul rides. These, however, are a part of the compromise plan resulting from the conferences, and were not a feature of the schedules as originally filed.

Before proceeding further in the consideration of the proposed new fares, it will be well to note the change in the situation which has occurred since the schedules were filed. A special act has just been passed by the General Court and signed by the governor, providing for the reorganization of the Bay State company. Under this act, if it is accepted by the company, as it probably will be, the property will be taken over by a new company capitalized on such a basis that the annual interest and dividend charges (computing dividends on the common stock at 6 per cent) will not exceed 6 per cent upon the amount found by the Commission in 1916 to have been honestly and prudently invested in the property, plus additions and improvements since made. The present inflation of the capitalization will thus be reduced, although not entirely eliminated. New capital is to be furnished, partly by the security holders and partly through the issue of serial bonds, and these bonds, which may be issued to the extent of \$5,000,000, will in effect be guaranteed by the commonwealth, any resulting burden being distributed proportionately upon the cities and towns served by the company. To this extent, therefore, the credit of the commonwealth will be placed behind the company. In return, full control over management and operation will be placed, for a period of 10 years, in the hands of a board of five trustees appointed by the governor, and the

jurisdiction of this Commission over rates and service during this period will, in general, cease. Fares are to be established upon the so-called "cost-of-service" plan, with the intent of meeting all charges and producing a return of 6 per cent upon the investment; but this provision is modified, in a somewhat indefinite way, by a further provision in another section that the territory shall be divided into two fare districts, one north and the other south of Boston, and that these two districts shall be sub-divided into "smaller fare districts," as the trustees may deem reasonable, in each of which fares are apparently to be adjusted upon the "cost-of-service" principle, "as far as is consistent with the public interest and reasonably practicable."

"For the purpose of preventing undue increases in fares during the period of abnormal prices caused by the present war," the trustees are also permitted, with the approval of this Commission, "to postpone making amortization charges and charges against earnings to cover depreciation until such period not exceeding one year after the termination of the present war as they may fix." The company is relieved, "during the continuance of the war and for a period of two years thereafter," from paying, except with the express approval of this Commission after a hearing, "any part of the expense of the construction, alteration, maintenance or repair of any street, highway or bridge or any structure maintained or placed therein or thereon, or of the abolition of any grade crossing or the removal of wires from the surface of any street or highway to an underground conduit or other receptacle," or any other expense of similar nature.

The importance of this change in the situation will be apparent in connection with certain testimony of the vice-president of the company, Mr. Stearns, at the public hearings. When asked whether, if a statute embodying the so-called "cost-of-service" plan were enacted and made applicable to the Bay State road, he would desire to put into effect the same fares as proposed in the schedules before the Commission, he replied that he would advocate lower fares, if the legislation re-established the credit of the company so that capital could be secured for needed improvements, and if it also relieved the company from important existing burdens. Re-establishment of credit he considered the "most important element" (Record, p. 134), and this alone would justify the "immediate expanding" of the city area (Record, p. 133). A map before the Commission at the time showed, in red, the lines within the proposed inner zones and, in brown, the lines

within the proposed adjacent outer zones. When asked whether, if such legislation as he desired were in effect, he would start with a different schedule from the one under consideration, he replied (Record, p. 134): "I would not waste a minute recommending to Mr. Donham (the receiver) to take in the city center, to take in the brown." What rate of fare would be desirable in this enlarged area he felt was dependent upon the extent to which burdens were removed, but if the excise tax and the corporate franchise tax alone were eliminated he did not feel that this would "justify very much of a reduction in the rate of fare in this combined red and brown area from 6 cents, if any at all." The plain implication from his testimony was that the rate of fare would not, in any event, be higher than 6 cents, and might be lower.

The importance of re-establishing credit, in his opinion, lay in the economies which could be secured within a comparatively short time, if only capital were available. In this connection he mentioned especially the building of a new shop, which would greatly reduce the cost of car repair (Record, pp. 137, 138). He regarded it as "a crime that it costs $3\frac{1}{2}$ cents a car mile to keep cars in fit condition. It ought not to be over $2\frac{1}{2}$ cents a mile." In his opinion it would be sound judgment "to anticipate this reduction in unit costs and immediately apply it either to an expansion of the city centers or to some other means or some other methods of arriving at its equivalent." Other improvements of similar nature which might be made would be the introduction of one-man cars on certain lines, and the improvement in the physical condition of tracks, resulting in faster schedules and reduced maintenance cost.

From what has already been said, it will be clear that the legislation actually passed meets the requirements mentioned by Mr. Stearns to an extent which probably was not anticipated at the time when his testimony was given. It absolutely re-establishes the credit of the company, so far as capital for all improvements desirable in the immediate future is concerned, adding the credit of the commonwealth to the company's own credit as improved by the statute. It also relieves the company from very important and substantial burdens, and makes it possible for the trustees, with the consent of the Commission, to postpone depreciation and amortization charges in order to prevent fares from reaching an unduly high level.

Under the terms of the new statute, the control of this Com-

mission over rates is only temporary and will end as soon as the new board of trustees is appointed and assumes office. When this change is effected, the trustees will have full control over the situation and complete power to put in operation such rates as they deem advisable and which comply with the statutory requirements. The necessary preliminaries connected with the rather difficult matter of reorganization will, however, consume no little time, and it does not now seem probable, even if no further obstacles arise, that the trustees will be able to assume control before the autumn months. In the meantime, the jurisdiction of the Commission over rates will continue, and the decision of this case cannot with propriety be postponed.

With respect to the proposed rates on the rural interurban lines covered by schedule No. 75, little question can be raised. The mileage principle upon which these rates are based has been approved by the Commission in other cases. It is logical, and under it each passenger pays for approximately the service that he receives, without discrimination. There are practical difficulties in the application of the principle to certain traffic conditions, and modifications and adjustments may from time to time prove necessary; but, as the Commission said in the Springfield case, the experiment is one which deserves encouragement.

The mileage rates which have been adopted are no higher than the earnings of the lines warrant. In deciding whether the rate on a particular route should be 2 cents, or $2\frac{1}{2}$ cents, or 3 cents per mile, certain rather arbitrary distinctions have been made, but the higher rates have not been applied to lines where the traffic would justify a lower rate. Under the recent order of Director-General McAdoo, the regular single-ticket rate on all steam railroad lines is now 3 cents a mile. We are informed, also, that the Public Service Commission of Indiana has recently permitted all electric interurban lines in that state to increase their charges to $2\frac{1}{2}$ cents per mile. The most important objection which may be made to the mileage system is that, because of the inequalities in the existing rates, it causes a disproportionate advance in the charge for certain rides, thus unsettling conditions of long standing to which business and population have become adjusted. While this objection has weight, it does not justify a refusal to permit the adoption of a new system which is inherently more logical and equitable than the system now in effect. It may be reasonable and desirable, however, in certain instances to introduce special ticket rates to prevent too violent a change

in the transition from the old system to the new. This is a matter which is discussed below in connection with schedule No. 62, dealing with reduced-rate tickets.

Schedule No. 77, relating to the city districts, raises more difficult questions. As already shown, the fares proposed in this schedule are very high, even under the compromise plan. If it were not for the increase of \$750,000 per year in wages which the company has granted within the past week to its employees, the Commission would be disposed to require radical changes. Apart from all other considerations, the legislation which the General Court has recently enacted, combined with the testimony of Mr. Stearns, would be sufficient justification for expanding the inner central areas to take in the outer zones. In the Bay State rate case, decided in 1916 (4 P. S. C. Rep., p. 69), it was stated that "In view of the provisions of the statutes under which the consolidations were effected, in view of the circumstances which led up to them, and in view of the little community of interest between certain parts of the system, it would, in the judgment of the Commission, be an injustice to the many populous communities which the Bay State company serves to regard its system wholly as a unit for rate-making purposes." It was further stated that, while the communities and localities in which the company earns the major part of its divisible income must expect in some measure to bear the burden of tributary lines which cannot support themselves, "this does not go to the length of admitting that the full burden of carrying the 'speculative' properties in sparsely settled territory, which were made a part of the system in the manner above described, must be borne by the better paying communities." Taking into consideration, therefore, the financial benefits to be derived from the new legislation, the burden imposed upon the city districts under schedule No. 77 would, in our judgment, be unjust, as the situation stood prior to the granting of the last wage bonus.

Manifestly, however, this wage increase has effected a marked change in the situation. The amount involved, \$750,000, is very large. It is somewhat more than the amount, \$720,000, which the company expected to gain from the last increase in fares in the city districts, and much larger than the amount actually realized. It also is not far from one-half of the sum, \$1,671,000, which the company expects to realize from the new schedule now under suspension, as modified by the compromise agreement reached in the conferences with representatives of the cities

affected. Under the circumstances, it seems to the Commission that conditions have been altered so materially that it would not be warranted in taking the action which it would otherwise be disposed to take, and that the burden imposed upon the city districts by schedule No. 77 in its modified form has ceased to be so clearly disproportionate that any radical change in this schedule can reasonably be required.

It is less difficult to reach this conclusion than it otherwise would be, because the proposed zone system of fares within the city districts seems to be better adapted to the urban territory in which the Bay State company operates than to the similar territory served by certain other street railway companies. For the most part the Bay State cities are compact, so that the thickly-settled central portion, as distinguished from the suburban fringe, falls in general within the limits of the inner zone as it has been laid out. Since schedule No. 77 was originally filed, the company has agreed in a number of instances, as a result of various objections which were made, to extend the limits of this zone, and at the close of the public hearings comparatively little opposition was offered to the new plan by the majority of the communities affected. There seems to be a rather general feeling that the preservation of a 5-cent rate for short-haul traffic within the central areas and the experimental introduction of a still lower rate during the "off-peak" hours compensate in substantial measure for the disadvantages of the zone arrangement, and will afford an opportunity to test the effect of low charges in inducing increased riding which may prove of considerable value to the communities in the future.

Regarded from this point of view, the new schedule is an attempt to confine the inner zone, within which the minimum fare is charged, to the limits of the thickly-settled portion of a city, rather than an attempt to reduce it to an arbitrary circular area with a radius of approximately $1\frac{1}{2}$ miles; and for this reason the precedent established is less undesirable and dangerous to the public interest. It is a well-established principle in city traffic that the short-haul offsets the long-haul riding, and on this account the central single-fare area may often, without detriment to the earnings of a company, be made much larger than would at first thought appear possible. Obviously, to use an extreme illustration, the establishment of an inner zone in the city of Boston with a radius of $1\frac{1}{2}$ miles or even 2 miles would be unwarranted and absurd. In the Bay State territory, however, the

inner zones as laid out, with the modifications which have since been made, do not, on the whole, appear, in the present war emergency and in view of all the circumstances, to be beyond the pale of reason.

The most important objections to the new plan were raised by representatives of the cities of Haverhill and of Brockton. They feel that, whatever may be true of the other cities which the company serves, the zone system is not suited to the requirements of their particular communities. Brockton is surrounded by a number of smaller manufacturing centers, all located within a radius of about 7 miles, which are united to the larger community by strong ties of business and commercial interest. Shoe manufacturing predominates in the district and there is much interchange of labor. For this reason, street railway transportation facilities are unusually important and the traffic density comparatively high. The representatives of the district were strongly of the opinion that the zone system, unless substantially modified, would result in rates between Brockton and the nearby communities which would be decidedly injurious to the public interest. In the case of Haverhill, it was argued that the population is less centralized than the population of most of the other cities and the thickly-settled territory less symmetrically located, so that the limits of the proposed inner zone would exclude certain parts of the community which ought reasonably to be included within any central area.

So far as Brockton is concerned, it seems to the Commission that such adjustments as are desirable can properly be made through the use of workingmen's tickets. If the new schedules are approved, one function which these tickets will perform will be to absorb some portion of the shock which the change from the old to the new system of fares might otherwise offer under certain conditions, and to afford such concessions as are reasonable to traffic moving regularly in considerable volume between a city district and some point in interurban territory beyond the outer zone. Schedule No. 62 already provides for a number of such tickets in Brockton territory, but it is quite possible that, under the conditions which will be created by the introduction of the zone system, still other tickets of this character will prove necessary to prevent interference with the free interchange of labor which is so essential to the welfare of this district. This question is further considered in connection with schedule No. 62.

The representatives of Haverhill were not opposed to an in-

crease in fare, but urged that the inner and outer zones be combined in their city district and a straight 6-cent fare charged without reduced-rate tickets of any sort, even if a charge for transfers were also made. The company objected to this plan, partly because it would somewhat reduce revenue, but chiefly because it would break the uniformity of the new fare plan and create an undesirable precedent.

Upon consideration of all the evidence, it seems to the Commission that this argument has weight. Both the outer and the inner zones proposed for Haverhill are comparatively large. Taking the limits on the lines which extend into interurban territory, the outer zone has an average radius of 3.26 miles, and one line extends 3.73 miles from the center. The inner zone has an average radius of 1.72 miles. Haverhill is not a large city, and the investigation in the 1916 rate case indicated that it is not as profitable territory for the street railway company as some of the other cities. The chief objections to the new plan which were raised at the hearings relate to traffic between Haverhill and points which lie beyond the outer zone. If adjustments in the fares charged for such rides are desirable, they can be made by the use of workmen's tickets. The situation is not so different from the situation existing in the other cities that the Commission would be justified in compelling the company to make an exception in this case.

The new system of charges is, of course, an experiment. The company is strong in the belief that it will prove a successful experiment, both from the revenue standpoint and in other respects; but there are many who hold different views and who feel that the complexity created by the various kinds of tickets will prove a source of embarrassment in operation and in the collection of revenue, and that the large increase in the charge for many rides will divert traffic to the steam railroads or to jitneys, and even have a tendency to draw population from the country to the city districts. What system of charges it is best for street railway companies to adopt under existing conditions, both in their own and in the public interest, is still an open question, and trial and experience, rather than theory, must in the last analysis decide this question. When the public trustees assume control of this road, it is quite possible that they may find it necessary or desirable to undertake a revision of the fares which are now being established, and experience may show that this revision should follow the lines now apparently desired by the people of Haver-

hill. For the present, however, it seems best to apply the same rule to this city as to the other large cities which the company serves.

Schedule No. 62 deals, as aforesaid, with the so-called "workingmen's tickets." The chief question in regard to this schedule is whether these reduced-rate tickets are provided in all cases where they reasonably should be provided. The company has merely retained some of the tickets of this nature which were introduced under the existing system of fares, adjusting the rate at which they are to be sold on a uniform percentage basis to the regular rates under the new fare plan. In only a very few instances has it introduced such tickets on routes where they are not now provided. The adoption of the mileage and zone system of charges will change the situation very materially, and a reasonable need for "workingmen's tickets" will probably arise in a number of cases which are not covered by schedule No. 62. This was indicated very clearly by the testimony at the public hearings and was, indeed, admitted by the company. It is very difficult for the Commission, however, to acquire a sufficiently intimate knowledge of the traffic conditions in the very extensive territory which the Bay State company serves, covering as it does most of eastern Massachusetts, so that it can determine in advance of a trial of the new fares the localities in which additional reduced-rate tickets ought to be supplied.

The matter is one in which the interest of the company is very nearly as great as the interest of the public. As has been shown, one important purpose of these tickets is to adjust the new system of charges to conditions which have become established under the existing system and to prevent an interference with the movement of labor and the conduct of business which would be undesirable for all concerned — for the company as well as for its patrons. The company has shown a disposition to recognize this fact, has already agreed to modifications of tickets provided for in schedule No. 62, and has admitted that the evidence disclosed a probable need for additional tickets in certain other cases. The management has also taken the unusual but praiseworthy step of enlisting the aid of its motormen and conductors in securing full information in regard to local traffic conditions on all routes, so that it may be in a still better position to make the adjustments which experience may show to be desirable. Under the circumstances it seems to the Commission that the best course for it to pursue is to hold this matter in abeyance for the

time being, allowing the schedule to take effect without further modification, but reserving the right, upon petition, to take up particular cases for consideration at any time without prejudice, in case the company fails to introduce the additional tickets or to make the further changes which its patrons believe to be reasonably necessary.

The attitude of the Commission will be the same with respect to extensions or alterations of zone limits. The company has met many of the specific objections relative to the location of these limits which have been raised by the cities and towns, but in other cases no agreement could be reached, and no doubt still further objections will be raised when the new system goes into operation. We have deemed it desirable not to attempt to deal with these questions in detail at this time, but to await the test of actual experience, reserving the right, as in the case of "workmen's tickets," to receive and act upon specific complaints from time to time without prejudice. In considering such cases the principle will be kept in mind that no arbitrary distance limits ought to determine the boundaries of either the inner or the outer zone, but that these boundaries should be fixed in accordance with population conditions.

Under schedule No. 77 as originally filed, the 7½-cent tickets, good between points in the outer zone and points in the inner zone, could be used in connection with through rides to or from interurban territory beyond the outer zone. Under the compromise plan, however, the 7¼-cent tickets, which took the place of the 7½-cent tickets, cannot be used in connection with such through rides, although they are good only to and from the traffic centers of the city districts and carry no transfer privileges. Through riders, therefore, would be obliged to pay the 8-cent cash rate and would thus be worse off under the compromise plan than under the original schedule. In the opinion of the Commission there is no sufficient reason for this distinction, and we believe that the new 7¼-cent tickets should be available for through as well as for local riding.

Counsel for the Swansea and Seekonk Street Railway protested against any revision of rates on the Fall River-Swansea line of the Bay State company that would interfere with the present joint passenger rate between the two companies, or would otherwise impair the revenues of the Swansea and Seekonk company. The Swansea and Seekonk was organized in November, 1917, and took over the property and franchises of the Providence and Fall

River Street Railway Company. Its tracks lie wholly within the towns of Swansea, Seekonk and Rehoboth, and connect with those of the Rhode Island Company at the Massachusetts-Rhode Island state line, and with those of the Bay State Street Railway Company at the Swansea-Somerset town line. Through service is operated over these connecting lines from Providence to Fall River.

At the present time passengers may ride for 6 cents from the car barn on the Swansea and Seekonk line in the town of Swansea, a distance of nearly five miles, to Slade's Ferry bridge on the Bay State line. The distance covered by this joint rate is substantially the same on the lines of the two companies and the fare is equally divided. Passengers riding through to the center of Fall River pay an additional fare of 6 cents to the Bay State company. The Swansea and Seekonk company therefore receives 3 cents for carrying these passengers to the Swansea-Somerset line, and the Bay State company receives 9 cents for carrying them from that point to Fall River. Under the schedule filed by the Bay State company the local rate from the Swansea-Somerset line to Fall River will be 10 cents, and if the Bay State company undertakes to collect the same amount from through passengers there would be only 2 cents of the joint rate remaining for the Swansea and Seekonk company. This joint rate is used largely by residents of the village of Swansea, which is less than half a mile from the terminus of the Bay State line and is the most populous locality on the line of the Swansea and Seekonk company. As a result of the proposed readjustment of fares of the Bay State company, many residents of Swansea Village would be likely to walk to the terminus of the Bay State line in order to secure a 10-cent fare to Fall River. At the present time this cannot be done, as the fare from the terminus of the Bay State line is now 12 cents.

The Swansea and Seekonk company is at present operating under adverse financial conditions and the anticipated reduction or entire loss of revenue from passengers using the present joint rate would be so serious as to threaten the continued operation of the line. After conference with officials of the Bay State company, it was agreed that the present division of this joint rate should not be disturbed. The Commission is also willing to approve a 3-cent rate for the terminal zone of the Bay State company, which extends from the Swansea-Somerset line to Hot-and-Cold lane, a distance of 1.11 miles. As there are apparently less

than a dozen houses served by this portion of the line, and as its length is somewhat above the average, a 3-cent rate would seem to be consistent with the general scheme provided for in the pending tariff. If this increase is made, the rate of fare to Fall River will be 11 cents, which is less than the fare now in effect. This readjustment should also favorably affect the Swansea and Seekonk company, as very few of the residents of Swansea Village would be likely to walk half a mile to the terminus of the Bay State line to save one cent only. The Commission is of the opinion that these readjustments ought reasonably to meet the protest filed by the Swansea and Seekonk company.

Since the schedules were originally filed, the compromise plan resulting from the conferences with the community representatives has been agreed to by the company, and also numerous modifications in zone limits and ticket provisions. A tentative draft of a new schedule, No. 78, combining and superseding those which are now under suspension and embodying these various changes, has been submitted to the Commission. This has been examined by our Rate and Tariff Department and certain changes in form and phraseology will be necessary, but when these changes are made and the 7 $\frac{1}{2}$ -cent tickets are made available for through as well as for local riding, this revised schedule will be allowed to take effect upon short notice. In the meantime, the schedules under suspension will be cancelled. An order to this effect is entered below.

ORDER.

It appearing that on August 10, 1917, an order was issued suspending the Bay State Street Railway Company's tariff M. P. S. C. No. 62, making certain changes in the reduced-rate workingmen's, commutation and excursion tickets in Massachusetts, until October 1, 1917,

And that on November 3, 1917, an order was issued suspending the Bay State Street Railway Company's tariff M. P. S. C. No. 75, making changes in rates of fare and fare limits on certain of its lines until January 1, 1918,

And that on April 23, 1918, an order was issued suspending the Bay State Street Railway Company's tariff M. P. S. C. No. 77, changing certain rates in city and suburban territory, until June 1, 1918, all of which suspensions have been extended by subsequent orders until June 16, 1918,

And it further appearing that a full investigation of the matters and things involved has been had and that the Commission on

the date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, — it is

Ordered, That the Bay State Street Railway Company be and it is hereby notified and required to cancel the rates, charges and changes of fare limits and transfer privileges stated in the schedules specified in said orders of suspension.

It is

Further ordered, That a copy of this order be filed with said schedules at the office of the Commission and a copy hereof be forthwith served upon the Bay State Street Railway Company.

By the Commission,

ANDREW A. HIGHLANDS,

JUNE 11, 1918. [P. S. C. 1858, 1953, 2095]

Secretary.

Notice of the Bay State Street Railway Company (Wallace B. Donham, Receiver) of proposed changes in fares for passengers upon its railway.

At the hearings in this case counsel appeared for the receiver of the Bay State Street Railway Company, and eighteen cities and thirty-six towns served by the company were represented by their mayors, selectmen, city or town solicitors, special counsel, representatives of commercial and labor organizations and others.

Since October 1, 1916, the Bay State Street Railway Company has had four increases of fares in Massachusetts. The first went into full effect on October 16, 1916, and covered all the interurban lines, and the city lines in Woburn and Gloucester. It was felt that it would yield about \$350,000 increase in revenue. The second was in Fall River, where the reduced fare tickets sold at the rate of 6 for 25 cents were eliminated on March 15, 1917, the company estimating that the change would produce about \$50,000 additional revenue. The third became effective on July 15, 1917, and covered all the city lines not included in the first advance. The probable gain was placed by the company at \$720,000. The fourth went into effect on June 24, 1918, and the management estimated the increase at \$1,671,000. The total expected gain from all four increases was thus about \$2,791,000,

and all the estimates made allowance for probable shrinkage of traffic. In contrast, the result has been as follows:—

Company's estimate of revenue for full year under present

fares, based on experience to date,	\$10,466,000
Revenue in year ended June 30, 1916,	9,366,217
<hr/>	
Increase,	\$1,099,783

During this period the company has had a substantial increase in freight receipts (included in the above revenue figures) amounting to upwards of \$100,000.

The results from the last raise are especially interesting. In its opinion of June 11, 1918, approving this increase, the Commission made the following statement:—

The vice-president of the company, Mr. Stearns, who has a wide acquaintance with conditions in other parts of the country, was asked at the hearing whether he knew of any company operating in cities of the size of Lynn, Brockton, Fall River and Lowell which serves, for a 5-cent fare, an area as small as the proposed inner zones under schedule No. 77, and also whether he knew of any company operating in such territory which proposes to increase its fare to 6 cents and reduce the area served to such limits. To both questions he replied in the negative (Record, pp. 87-88.) If this new schedule is approved, it seems, without much question, that the urban fares in the territory served by the Bay State company will be *relatively higher than the urban fares charged elsewhere in the country.*

The following table shows the course of receipts immediately before and immediately after this large increase became effective, in comparison with the receipts of the corresponding period of the previous year:—

Prior to increase:—

First six months of 1918, 0.25 per cent decrease.

Subsequent to increase:—

July, 1918, 5.44 per cent decrease.

August, 1918, 1.87 per cent decrease.

September, 1918, 0.46 per cent increase.

October, 1918, 10.17 per cent decrease.

The large falling off in October, it should be said, was undoubtedly due in great part to the influenza epidemic. Accurate figures are not available, but we understand that the November earnings show an increase of about 7 per cent. The company's

estimate of revenue for a full year under the new schedule, as above indicated, is \$10,466,000, as compared with \$10,207,624 actually received in 1917. Instead of the expected \$1,671,000, therefore, the gain will probably not be more than \$250,000.

Under the present schedule, all of the cities served by the Bay State company, excepting three of the smaller communities — Gloucester, Woburn and the Hyde Park district of Boston — have an inner and an outer zone. The radius of the inner zone averages somewhat more than $1\frac{1}{2}$ miles, but less than 2 miles. The width of the outer zone averages about 1 mile. Within the inner zone the cash fare is 6 cents, but tickets, good to and from the center, are sold at the rate of 5 cents each. Similar tickets, good only during the so-called "off peak" hours, are sold at the rate of $4\frac{1}{2}$ cents each. The cash fare between the outer and the inner zones is 8 cents, but tickets similar to those just mentioned are sold at the respective rates of $7\frac{1}{2}$ cents and $6\frac{1}{2}$ cents each. On the country lines outside of the city zones the fares are on a mileage basis. For 249 miles of track the rate is 2 cents per mile; for 37 miles, $2\frac{1}{2}$ cents, and for 117 miles, 3 cents. The variation in rate is dependent upon traffic density and consequent earning power. On a number of the routes workingmen's tickets, good during the morning and evening rush hours, are sold at about 70 per cent of the regular rate.

The company now proposes to eliminate all tickets, including the workingmen's tickets; to establish city zones, substantially the equivalent in most cases of the present inner and outer zones combined, with a uniform fare of 10 cents; and to divide the country lines into zones about two miles in length, with a minimum fare of 10 cents good for two zones, and 5 cents for each zone thereafter. It estimates that this change, if permitted, will produce from \$2,000,000 to \$2,500,000 additional revenue.

This new schedule is sometimes spoken of as if it represented a mere increase from 6 cents to 10 cents, similar to the recent increase of the Boston Elevated fare from 5 cents to 8 cents. Such a comparison, however, is misleading, because of the radical revision of fare zones on the Bay State lines which took place last summer. Starting in each case with the fare which existed as late as October, 1916, the maximum Boston Elevated increase is 60 per cent, while the proposed Bay State fares will vary from a minimum of 100 per cent (subject to a few exceptions in the case of rides covering 2 zones or more) to a maximum certainly as high as 400 per cent, and perhaps higher. This is demon-

strated clearly by the following table, showing the 1916, the present and the proposed fares from Brockton to adjacent points, and similar fares in the district north of Boston:—

	1916 (Cents).	Present (Cents).	Proposed (Cents).	Per Cent Increase.
Brockton to —				
West Bridgewater monument,	5	14	20	300
Bridgewater Center,	10	20	25	150
Workingmen's ticket,	7	14	—	287
East Bridgewater Center,	10	14	20	100
Workingmen's ticket,	7	9.8	—	185
Whitman Center,	5	12	15	200
Abington Center,	5	10	15	200
Rockland Center,	10	16	20	100
Workingmen's ticket,	7	11.2	—	185
Holbrook Square,	5	12	15	200
Avon Square,	5	10	15	200
Randolph, North Main and Liberty streets,	10	16	20	100
Workingmen's ticket,	7½	11.2	—	180
Stoughton Square,	10	14	15	50
Workingmen's fare,	5	9.8	—	200
South Easton Post Office,	10	10	15	50
Workingmen's fare,	5	8.4	—	200
Easton, Alger's Corner,	10	16	25	150
Workingmen's fare,	5	—	—	400
North Raynham Post Office,	15	26	35	133
Workingmen's ticket,	10.5	18.2	—	233
Lawrence to —				
North Andover, Wilson's Corner,	5	10	15	200
Workingmen's ticket,	—	7	—	200
North Andover, Essex and Boston streets,	5	16	20	300
Andover, Seminary Hill,	5	12	15	200
North Reading Junction,	10	20	25	150
Haverhill-Methuen line, Hawkes bridge,	5	12	20	300
Haverhill to —				
North Andover, Sutton's Corner,	10	20	25	150
Newbury, Dummer Academy,	20	35	35	75
West Newbury Town Hall,	10	14	20	100
Workingmen's ticket,	7	9.8	—	185
Georgetown Corner,	10	14	25	150
Salem to —				
Danvers Square,	5	10	15	200
Workingmen's ticket,	—	7	—	200
Maplewood Farm,	5	16	25	400
Middleton Square,	10	20	30	200
Workingmen's ticket,	7	14	—	328
Lynn to —				
Salem, Town House Square,	10	16	20	100
Workingmen's ticket,	5	11.2	—	300
North Saugus, schoolhouse,	5	12	15	200
Wakefield Square,	10	18	25	150
Workingmen's ticket,	7	12.6	—	257
Lowell to —				
Tewksbury, Chandler's Corner,	5	14	20	300
Workingmen's ticket,	—	9.8	—	300
Wilmington Depot,	10	24	30	200
Tyngsborough, Vesper Country Club,	5	15	20	300
Dracut, Lakeview Park,	5	12	15	200
Methuen, Stanley's,	10	14	20	100

These illustrations were selected at random and are, we believe, fairly representative of the charges from city centers to nearby points. The Boston Elevated is still carrying passengers a maximum distance of about 18 miles for a single fare, although

this has risen to 8 cents, while the maximum distance for 10 cents under the new Bay State tariff from one side of a city zone to the other would be about $5\frac{1}{2}$ miles. The cities served by the Bay State are by no means small, as the following table of population in 1915 will show (grouping certain cities which are treated by the company substantially as one community): —

Fall River,	. . . . .	124,791
Lowell,	. . . . .	107,978
Chelsea,	}	106,322
Everett,		
Revere,		
Lynn,	. . . . .	95,803
Lawrence,	. . . . .	90,259
Salem,	}	78,784
Beverly,		
Peabody,		
Malden,		
Melrose,	. . . . .	65,787
Brockton,	. . . . .	62,288
Haverhill,	. . . . .	49,450
Quincy,	. . . . .	40,674
Taunton,	. . . . .	36,161
Gloucester,	. . . . .	24,478
Woburn,	. . . . .	16,410

It is safe to say that there are no other communities of this size in the United States where a minimum fare of 10 cents is charged, or even seriously proposed. It is also safe to say, although increases have been common everywhere, that there is no street railway company in the country which has made, or proposed, so radical and burdensome a change of fares, compared with the rates in force two years ago, as the new Bay State tariff embodies.

No one who examines these fares with any critical care can have any doubt as to the profoundly disturbing effect which they are likely to have upon economic and social conditions in eastern Massachusetts; nor can there be any doubt that this Commission, before it passes judgment upon them, ought to view the situation to the best of its ability from every angle and give it most scrupulous consideration. The evidence upon which the company rested its case consisted of a brief statement by the receiver, accompanied by a few skeleton exhibits, and upon this foundation it was seriously urged that the Commission should allow the schedule to become effective without suspension, and before the remonstrants had had an opportunity to be heard.

THE SPECIAL BAY STATE ACT.

At this point it is desirable to state the substance and the purpose of certain legislation relative to the Bay State Street Railway Company which was enacted at the last session of the General Court. Since December 13, 1917, the company has been in the hands of a receiver appointed by the Federal Court. Because of this fact and the generally unsatisfactory state of its affairs, it received special attention from the Legislature and an act was passed (chapter 188 of the Special Acts of 1918) which was intended to provide a remedy for its troubles.

Briefly, this special act provides for the organization of a new company to take over the property, capitalized on such basis that the annual interest and dividend charges (computing dividends on the common stock at 6 per cent) will not exceed 6 per cent upon the amount found by this Commission in 1916 to have been honestly and prudently invested in the property, plus additions and improvements since made. The present inflation of the capitalization will thus be reduced, though not entirely eliminated. Before the new company acquires the property, the act requires provision to be made "for the paying in of \$1,000,000 in cash" by the present security holders for shares or bonds of the new company, such cash "to be used in the rehabilitation of its lines or for other corporate purposes." The act also permits the issue of \$5,000,000 of serial bonds which are, to the extent of \$4,000,000, in effect to be guaranteed by the Commonwealth, any resulting burden being distributed proportionately upon the cities and towns served by the company; and it requires provision to be made for the immediate sale of \$2,500,000 of these serial bonds before the property is taken over by the new company, \$500,000 to be used as a reserve fund for the payment of dividends, and the remaining \$2,000,000 to be used for additions and improvements. In return for this extension of State credit, full control over management and operation will be placed for a period of 10 years in the hands of five trustees appointed by the governor.

When these trustees are appointed, the jurisdiction of this Commission over rates and service will, in general, cease. Fares are to be established and automatically regulated from time to time upon the so-called "service-at-cost" plan, with the intent of meeting all charges and producing 6 per cent dividends upon stock, and there is a somewhat indefinite provision that the territory shall be divided into two fare districts, one north and the

other south of Boston, and that these two districts shall be subdivided by the trustees into "smaller fare districts as they may deem reasonable," in each of which fares are apparently to be adjusted upon the "service-at-cost" principle, "as far as is consistent with the public interest and reasonably practicable."

"For the purpose of preventing undue increases in fares during the period of abnormal prices caused by the present war," the trustees are also permitted, with the approval of this Commission, "to postpone making amortization charges and charges against earnings to cover depreciation until such period not exceeding one year after the termination of the present war as they may fix." The company is also relieved, "during the continuance of the war and for a period of two years thereafter," from paying, except with the express approval of this Commission after a hearing, "any part of the expense of the construction, alteration, maintenance or repair of any street, highway or bridge or any structure maintained or placed therein or thereon, or of the abolition of any grade crossing or the removal of wires from the surface of any street or highway to an underground conduit or other receptacle," or any other expense of similar nature.

Undoubtedly the General Court felt, when it passed this act, that it was providing a positive solution of the Bay State problem, that reorganization would follow within a comparatively short time, that capital for rehabilitation and improvement would thus be provided, and that the accomplishment of these two things would at least have the tendency of preventing further increases in fares. The basis for this belief was furnished by the company itself. At the hearings before this Commission, preceding the last increase in fares and while legislation was still pending, much stress was laid, both by the receiver and by the vice-president of the company, upon the advantages which would accrue from a "service-at-cost" act and re-establishment of credit. It was stated, indeed, that the economies which would thus become possible would probably lead to early reductions in fares. (See the Record of these hearings, pages 37 and 132-138.)

In fairness it should be said that the company has suffered two heavy increases in wages since these statements were made, but they are cited merely as evidence that the General Court had reason to anticipate favorable results from the legislation enacted and to expect early action in accordance with its provisions. No such action, however, has occurred. Although the act was approved by the governor on June 3, 1918, it has not yet been

accepted by the company and no formal steps thereunder have been taken to organize the new corporation, or to secure the appointment of the public trustees. The principal reason given is that the sale of Liberty bonds, and other conditions incident to the war, have made it exceedingly difficult to raise the necessary capital. In addition to the sale of \$2,500,000 of serial bonds guaranteed by the Commonwealth, and to the provision by the security holders of \$1,000,000 for rehabilitation purposes, it is stated that it would now be necessary to raise about \$2,500,000 for the payment of overdue taxes and interest, principal of maturing obligations, receivership and reorganization expenses, etc. For this latter amount, apparently, permanent securities would in large part be issued, and the balance would constitute a loan payable out of future earnings. A secondary reason offered for the failure to accept the act is the fact that the increase in rates which became effective June 24, 1918, has not produced anticipated results.

MUNICIPAL CONTRIBUTIONS.

A further act passed by the last General Court which has a bearing upon the present situation is chapter 288 of the General Acts of 1918, reading as follows: —

SECTION 1. Any city or town may during the period of the present war and for two years following its termination as defined by federal authority, upon such terms and subject to such restrictions as may from time to time be approved by the public service commission as consistent with the public interest, contribute *to the cost of operation and fixed charges* within such city or town of any line or lines of a street railway company, to an amount not exceeding one dollar per one thousand dollars of the preceding year's assessed valuation in any town, and not exceeding fifty cents per one thousand dollars of the preceding year's valuation in any city.

As will be seen, the purpose of this act was to enable cities and towns, during the abnormal conditions created by the war, to afford some measure of relief to street railway companies by contributions from the public treasury, as a substitute in whole or in part for extraordinary increases in fares.

DISCONTINUANCE OF LINES.

On March 11, 1918, the receiver was given permission by the federal court to discontinue the operation of some of its country lines, upon the ground that they were not earning operating expenses. No action was immediately taken, but on December 1,

1918, a few lines which were regarded by the receiver as unsafe for operation were closed down with the approval of the court. A petition for permission to discontinue further substantial portions of the railway during the winter months at least, because of failure to earn operating expenses, is now pending before the court. The single track mileage of the lines already closed down is 30.4; the mileage of those where the question is still undecided is 288.2.

RESULTS FROM OPERATION.

The company's petition for higher fares is based upon a statement of operating results under present conditions. For the year ending December 31, 1918, these figures are as follows (9 months actual, 3 months estimated): —

Operating expenses,	\$8,790,767
Taxes,	484,720
Depreciation,	1,104,000
<hr/>	
Total,	\$10,379,487
Gross income,	10,045,464
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Deficiency,	\$334,023
6 per cent upon investment,	2,470,200
<hr/>	
Total deficiency,	\$2,804,223

The present fares, however, have only been in effect since June, and the same is true of certain increases in wages. On December 6, 1918, moreover, the National War Labor Board granted further increases in wages estimated by the company to amount to about \$875,000 yearly. Assuming, then, a full year's operation on the basis of present fares and present wages, the figures above given are changed, as follows: —

Operating expenses,	\$10,233,000
Taxes,	484,720
Depreciation,	1,104,000
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Total,	\$11,821,720
Gross income,	10,466,000
<hr/>	
Deficiency,	\$1,355,720
6 per cent upon investment,	2,470,200
<hr/>	
Total deficiency,	\$3,825,920

These figures are only approximate and are open to criticism in certain respects. The margins are so wide, however, that there is no room for doubt that the company is in dire need of a large amount of additional revenue, even if dividends on stock are left out of consideration. The following factors are chiefly responsible for this situation:—

1. The very heavy increase in wages since the beginning of the war. The following table shows the wages, in cents per hour, paid to motormen and conductors in October, 1915, as compared with the wages fixed last week by the War Labor Board:—

<i>October, 1915.</i>		<i>Present.</i>	
First six months,	24.5	First three months,	41
Second six months,	25	Second nine months,	43
Second year,	26	Second year and thereafter,	45
Third year,	27		
Fourth year,	28		
Fifth year,	29		
Sixth year and thereafter,	30		

Nor does this table tell the whole story, for there has been a large increase in the so-called "loadings," such as overtime, minimum pay, etc. The wages of other labor have increased in like proportion. What this increase means is shown by the fact that the pay roll promises to absorb from 65 to 70 per cent of yearly receipts on the present basis.

2. The heavy increase in the price of coal, steel, copper and other supplies. In 1915 coal averaged \$3.55 per ton; now it averages very nearly \$10 per ton, the total fuel cost amounting to nearly \$1,500,000 per year. The increase is due to higher prices at the mines, added to an even larger rise in the price of transportation.

3. The fact that the increases in fares, although they have been heavy, have been offset by loss of traffic, so that there has been comparatively small gain in actual receipts.

4. The fact that the company is handicapped by the poor condition of much of its equipment, by the poor condition of a lesser but substantial portion of its track, by poor voltage on many of its lines, and by inadequate and uneconomical shop and car-house facilities.

5. The fact that many of its country lines never have been profitable.

In passing it may be desirable to state that salaries in excess of \$2,000 only total \$253,930, and are paid to 68 men, of whom but nine receive in excess of \$5,000. The maximum is \$20,000, paid to the president, Mr. Sullivan, and also to the vice-president, Mr. Stearns. While certain of the salaries may be open to criticism, it is apparent that they play but an insignificant part in the total expense of operation.

From the evidence before the Commission, summarized briefly above, it is clear that, even if the company should gain from its proposed new tariff the maximum amount which it expects to receive, it is not at all likely, under existing conditions, to become prosperous. This, however, cannot be regarded as a conclusive reason for approving the schedule. In the opinion of the Commission, it cannot so easily fulfill its duty to the people of the commonwealth.

THE QUESTION AT ISSUE.

In the first "Bay State Rate Case" the Commission held that, to sustain the burden of proof imposed by the statute, the company must "satisfy the Commission that there is at least a reasonable prospect that the change in fares desired will result in an increase in revenue" (4 P. S. C. Rep., p. 14). In the present instance the receiver and the management apparently believe that the new tariff will produce substantially the gain in revenue estimated. On the other hand, the remonstrants, many of them official representatives of the cities and towns involved, were unanimous in expressing the conviction that a 10-cent minimum fare will be disastrous in its effect upon the company itself; and it is our belief that they were entirely sincere in this expression. It is also within our knowledge that many street railway officials are skeptical as to the wisdom of so high a minimum rate.

Street railway fares have been more frequently and more generally raised in Massachusetts than in any other part of the country, and while it cannot be said that no advantage to the companies has resulted, it is true that in nearly every case the gain in revenue has been less — and often far less — than the prior estimates. Other factors have entered in, but, making all due allowances, it is quite clear that increases in fares impose a burden upon the public which considerably exceeds the benefit which they bring to the companies.

During the year ended June 30, 1916, the unit of cash fare on the Bay State system was 5 cents, and in Fall River 6 tickets were sold for 25 cents. Throughout the year ended June 30, 1918, the unit was 6 cents, and while tickets were sold in the cities at the rate of 20 for \$1, only about 30 per cent of the patrons used these tickets. Comparing the latter with the former year, the average increase in fares was at least 15 per cent, and probably more. The following table shows the corresponding increase of passenger receipts in the case of the Bay State com-

pany and also in the case of 9 other companies which maintained the 5-cent rate in both years: —

COMPANY.	Per Cent Increase, Year ended June 30, 1918, over Year ended June 30, 1916.
Bay State,	9.104
Berkshire,	1.989
Boston Elevated,	3.619
Interstate Consolidated,	7.015
Milford, Attleboro and Woonsocket, . . . . .	.455
Northampton,	3.605*
Northern Massachusetts,	1.973
Springfield,	6.990 ¹
Union (New Bedford),	14.781
Worcester Consolidated,	9.719

¹ Year ended April 30, 1918, used for comparison, since fares were increased on May 1, 1918.

* Decrease.

All companies of any size which maintained the 5-cent rate are included in this list, except the Fitchburg and Leominster and the Lowell and Fitchburg, which were omitted because of the increase in traffic caused by Camp Devens. It will be noted that the Bay State, notwithstanding its 15 per cent or more increase in rates, gained only about 9 per cent in receipts during the two-year period, while the other companies where the rate remained the same all increased their revenue, except the Northampton, and two of them actually gained more than the Bay State. The latter company was undoubtedly helped by the expansion of business in the Quincy district, caused by the Fore River shipbuilding industry, and by the increase of traffic for similar reasons in Newport, R. I., the receipts from the Rhode Island lines being included in the above table. This is shown by the fact that the increase north of Boston was but 6.47 per cent, while it was 13.8 per cent south of Boston.

As already shown, the results from the even larger average increase on the Bay State system which became effective on June 24, 1918, have been still more disappointing, and the record of the Middlesex and Boston, which is now charging 7 cents on certain lines and 8 cents on others, is quite as unsatisfactory. Even the Boston Elevated, which is distinguished by the terri-

tory which it covers and the low percentage of short-haul riding, has been able to gain but 20 per cent (discounting the effect of the influenza in September and October) from a 40 per cent raise of fare to 7 cents. The extent to which the Bay State company has suffered in traffic may be illustrated by the fact that, on the basis of the riding in the year ended June 30, 1916, when the 5-cent unit was in force, an increase of 40 per cent to a 7-cent unit without change of zones would have produced about \$12,700,000 total revenue, whereas the maximum which the company estimates from the new tariff, with increases over the 1916 fares ranging, for the most part, from 100 per cent to 300 per cent, is about \$12,900,000 and the minimum about \$12,400,000.

The cities served by the Bay State are compact, the distances are short, and the population made up on the whole of persons of very moderate means. It is possible that there are sufficient patrons who cannot find other means of transportation, who cannot walk or move their place of residence, and who are obliged to use the Bay State cars, so that revenue advantage may be gained from the proposed new fares. Our experience in many other cases, however, leads us to place little faith in the estimates of gain submitted, and to share the fears expressed by the representatives of the communities. The best that can be said of the new schedule, from the point of view of the company, is that it is a chance, the risk of which is increased by the fact that the service is poor and will continue to be poor, under the most favorable conditions which can be anticipated, for some time to come.

Viewing the new rates from the public point of view, there is a certainty of a most disturbing effect. It is impossible to raise fares within a period of two years to the extent proposed in the company's new tariff, without disrupting and dislocating the conditions to which community life has become adjusted. The new schedule means that the company will practically abandon the short-haul business in the city centers, and from the centers to the nearby suburban towns the rates will be so increased that it is difficult to believe that much regular daily traffic can in the long run be preserved. Still more disturbing, moreover, is the fact that, even if the new fares should prove unsuccessful in producing the revenue desired, experience has shown that it would be well nigh impossible thereafter to reduce them.

The present time is a transition period. No one can be sure what the course of prices will be, or what the immediate future is likely in other respects to bring forth. So far as street rail-

ways are concerned, it is in all probability a transition period in another sense, for it seems safe to say that the present unsatisfactory situation will lead to further action of some sort by the General Court. Without undertaking to predict what that action may be, it is certain that there are many who are coming to believe that it is wiser to place a part of the burden of the cost of necessary street railway service directly upon the community as a whole, rather than to suffer increases in fares which do not produce the results which they are designed to produce, and which are seriously disturbing to social and economic conditions.

This Commission was created, we assume, to protect the general public interest. Under present abnormal conditions, dealing with a situation so critical as the one by which we are now confronted, where the solution offered by the company is so uncertain and hazardous, we believe we are justified in disregarding speculative estimates or arbitrary rules and in taking the action which our best judgment leads us to believe will secure the best net results for all concerned. The company is in dire need of additional revenue, if only to provide a safe margin above necessary expenses of operation. Stating our proposition broadly, we propose to authorize for a brief trial period an increase in rates which seems likely, in our opinion, to produce a larger actual gain in receipts than the tariff proposed by the company and will at the same time result in less serious damage to the community, leaving the future to be dealt with in a manner which we shall hereinafter indicate.

It seems to be the general opinion that one important reason why the present schedule of fares has failed to produce anything like anticipated results has been its great complexity and the confusion which has been created by so radical a change, not only in the fares themselves, but in the methods by which they are collected. Quoting from the testimony of the vice-president of the company (Record, p. 747): —

I am confident since the zone system has been in effect it has not been given anything like a fair trial because it was immediately loaded down with a mass of tickets in city centers, and off-peak tickets, and that sort of business outside of the fact that the conductors and the communities themselves were wholly unacquainted with the method. It is common elsewhere but not in this territory.

There seems to be no doubt that, along with the loss of traffic occasioned by the high rates, there has been another and a sub-

stantial loss arising from the fact that the new system has provided greater opportunities for the percentage of dishonest conductors and dishonest passengers bound to exist among so large a number, and from the still more important fact that it has led, through congestion and confusion, to the missing of many fares where no question of dishonesty was involved. Indeed the reaction from this confusion, we believe, is one of the chief reasons for the insistency of the company upon a 10-cent minimum fare, which at least has the merit of extreme simplicity. Having in mind this situation and taking into consideration all other circumstances and conditions, the Commission has decided to authorize the immediate adoption of a new schedule of fares, made up as follows: —

1. *City Lines.* — In the cities the company may combine the present inner and outer zones into one area, *charging a 7-cent fare by the sale of 5 tickets or metal tokens for 35 cents.* For the purpose of encouraging the use of tickets, and in this way avoiding the difficulty in fare collection which arises when pennies are involved, the cash rate may be made 10 cents, but it is the purpose to make the real fare 7 cents, readily available to all riders. The tickets or tokens are to be sold by conductors on the cars, and it is a part of the plan that patrons shall be informed by the conductors that they may be obtained, and that the fact shall be advertised by signs in large type prominently posted in the cars. A certain percentage of riders will probably pay the 10-cent rate, but this will be of choice rather than of necessity, and the advantage thus gained by the company will benefit the other patrons.

In order that there may be no misunderstanding as to the area which this fare is to cover, it is the intent of the Commission that it shall apply as far from the center on all lines as the 8-cent cash fare now in force, except in Gloucester and Hyde Park, where it shall cover the present central area, there being but a single zone in each of these two districts under the existing schedule. In its proposed tariff, the company made the new central area somewhat smaller in certain cases than the present inner and outer zones combined, but no evidence was submitted as to the reason for such changes. If the management believes it can show that they are fair and reasonable, it will be given an opportunity, upon petition, to bring them forthwith to the attention of the Commission for further consideration. It is unnecessary to say that complaints from the public in regard to zone limits will receive similar consideration.

Since it is the intent that the real minimum fare shall be 7 cents, permission to charge 10 cents cash, for the purpose of encouraging the use of tickets, is given upon the understanding that the corresponding half fare tickets for school children shall be sold at the rate of 10 for 35 cents, so long as such tickets are required by law. Otherwise it will be necessary to make the cash rate 7 cents.

2. *Country Lines.* — On the country lines the company proposes zones averaging about two miles in length, charging 5 cents in each with a minimum of 10 cents. This makes the rate, for the longer rides at least, about $2\frac{1}{2}$ cents per mile. The single-ticket rate on the steam railroad lines is now 3 cents per mile, and trolley fares have always been somewhat lower. The rate of $2\frac{1}{2}$ cents per mile proposed is fairly comparable with the railroad rate, and it is also the rate which several country or interurban lines in Massachusetts are now charging, and which has been established on many of the interurban lines in the Middle West. It is also a rate no greater than will on the average be charged in the city zones under the 7-cent fare.

The difficulty in collecting fares on the mileage plan now followed is, perhaps, sufficient reason for substituting the simpler 2-mile blocks with a 5-cent unit, for the disadvantages of the present method affect the public as well as the company. To this extent, therefore, the schedule proposed on the country lines will be approved. We are unwilling to accept, however, a minimum of 10 cents on these lines as a general proposition. On lines where discontinuance is threatened, because of failure to earn operating expense, the Commission will of course permit any rates to be charged which are agreed upon by the communities and the company for the purpose of keeping the road open; but on lines which are not in this category we feel that 10 cents is too high a minimum rate. The company may either make the minimum rate 5 cents or follow the same plan as in the cities, selling tickets or tokens, good for a single zone ride, at the rate of 5 for 35 cents. The Commission is not at all sure that the former alternative is not the better for the company as well as for the community, but in view of present results from operation the management is given this choice.

The substitution of 5-cent zones without overlaps is very likely to cause complications in certain cases and some shifting of zone points or other changes may prove desirable. This subject will be reserved for further consideration by the Commission without prejudice on complaint.

3. *Workingmen's Tickets.* — The company has referred to the existing workingmen's tickets as though they were merely a special privilege granted to a particular class. In reality, the name is misleading. In its decision of June 11, 1918, the Commission stated that "for the most part they have been introduced to accommodate regular travel of comparatively large volume which the company felt was entitled, by reason of local conditions, to some concession over the cash rates." At another point it mentioned the fact that "one function which these tickets will perform will be to absorb some portion of the shock which the change from the old to the new system of fares might otherwise offer under certain conditions, and to afford such concessions as are reasonable to traffic moving regularly in considerable volume between a city district and some point in interurban territory beyond the outer zone."

These quotations present, we believe, a fair interpretation of the function which these workingmen's tickets perform, and the company has itself conceded that in certain instances the continuance of some form of reduced-rate tickets is desirable. In a report submitted by one of its experts, the following places are mentioned: —

Between Boston or Chelsea and Lynn.

Between Lynn and Peabody.

Between Lynn and Salem.

Between Lynn and Marblehead.

Between Lowell and Lawrence.

Between Haverhill and Lawrence.

Between Haverhill and West Newbury.

Between Haverhill and Georgetown.

Between Brockton and Rockland Center.

Between Pottersville Post Office, Somerset and North Dighton.

In our judgment it is desirable that reduced-rate tickets, sold at a price not higher than 70 per cent of the regular cash fare, should be provided between the points above mentioned, and also between all other points upon the system where existing workingmen's tickets are used in substantial volume. We make this provision because of our belief that, in view of the very radical and heavy increases in fares between the city centers and outlying points which have been made within the past two years, due to the establishment of additional zones, and which will be accentuated by the new tariff which we now propose, it is desirable in the interest of both the public and the company to in-

troduce "shock absorbers" of this character. The financial effect upon the company will be slight, for it estimated but \$83,000 gain from the elimination of *all* these tickets and the management now concedes that they should be retained between the points where they are most extensively used.

In proposing this new schedule the Commission desires to impress upon the communities as strongly as it can, the need for full co-operation with the company. Whatever may have been the sins or errors of the past, the water is over the dam and little good can come from dwelling upon them now. Moreover, it is clear that the chief factor in the present unfortunate plight of the company is the recent extraordinary rise in wages and prices, rather than any of these things. It is a condition by which the public is now confronted. The problem is not one of securing any immediate return of any particular amount on the investment, but of meeting the necessary and unavoidable cost of furnishing the service. If the railway should be sold at a foreclosure or receiver's sale, and even if it should be split up into a number of different parts, the same problem would remain under present conditions.

Unless present earnings are materially increased, or aid is provided from the public treasury, the service must inevitably become even worse than it now is, or be in whole or in part abandoned. So long as the car riders are required by law to bear the entire cost of operation, individual fares must be determined by the number of passengers among whom the total cost may be divided. It therefore follows, broadly speaking, that fares must go up as riding falls off. It is natural that the public, incensed at increases of fare which, judged by former standards, seem unjust and unreasonable, should be disposed to encourage jitney competition, to indulge in spite walking or to adopt other measures which will result in a decrease of riding and a consequent decrease in revenue. The inevitable effect of such action, however, is to increase the fares for those who must continue to use the street railway service. It is highly important, therefore, that city and town officials and the public generally should further the spirit of good-will and co-operation in order to insure a fair trial for the scheme of fares proposed by the Commission, and thus to avoid the larger increase which would result if the tariff filed by the company should go into effect.

It is our plan that the new schedule above outlined be made effective for a trial period of two months. If at the end of that

time it has, in combination with any other factors which may enter in, produced an increase in gross earnings, in comparison with the corresponding period of the previous year, of 15 per cent or more, after making allowance for loss of revenue on any lines which may have been discontinued, it is our judgment that the experiment ought to be continued for a similar period, in the hope that the situation may be further improved by action of the General Court, or by change in economic conditions. In other words, a gain of this character will be solid and substantial ground for encouragement, and for the expectation of even better results in the future. It will be a gain far better than this or other companies have in general been able to secure from any changes in rates which have yet been made. If maintained and gradually improved throughout the year, it should also be sufficient to cover operating expenses, taxes, interest on debt, and some provision for depreciation.

If, however, such an increase in revenue is not realized during the period of two months, or is not substantially maintained thereafter, the Commission will not stand in the way of a trial of the schedule which the company now proposes. In such an event the situation will in our judgment be so critical that we would not be justified in interposing further obstacles to this experiment. Before resorting to such a schedule, however, we earnestly recommend serious consideration both by the company and by the cities and towns, of the provisions of chapter 288 of the General Acts of 1918, above quoted. The Commission must also reserve the right to modify its plan in the light of any substantial change in conditions which may take place, such as the discontinuance of service on any large amount of trackage, in addition to the few lines which have been closed down because of unsafe conditions, or such as any material reduction in the price of coal or other supplies, or in the light of any new and important evidence bearing upon the entire situation.

It is well to note, in this connection, that the company's own figures indicate that for a full year *under present fares* and under the wages granted by the War Labor Board, it will earn out-of-pocket expenses of operation and about \$233,000 in addition, without discontinuance of any trackage. It will not earn, however, all of its taxes, nor be able to make provision for interest or depreciation. The amount included for this latter purpose in its estimates — namely, \$1,104,000 — is based on the finding of the Commission in the 1916 case, and is, we believe, no more

than a proper allowance for all forms of depreciation, including obsolescence. It is, however, very much in excess of any provision that the company has ever made in the past, and the Legislature, as above indicated, has recognized in the special Bay State Act the policy of postponing depreciation charges for a period of one year after the termination of the war "for the purpose of preventing undue increases in fares during the period of abnormal prices caused by the present war." The receiver himself stated this principle before the Street Railway Committee of the Legislature on March 19, 1918, as follows:—

The enactment of a service-at-cost bill would include approximately \$1,000,000 for depreciation, because that is the amount which the Public Service Commission has in its 1916 finding found either as a part of maintenance or to take care of obsolescence, as the proper figure for us to set up to cover depreciation. At least one-half of that in my judgment, probably more, ought not to attach to the Bay State Street Railway during this war period, and the fares charged on the Bay State ought not to be loaded while coal costs what it does, with this additional factor. This is not the time to change a policy of twenty-five years' standing and suddenly wake up and say that the community must bear this abnormal burden. It is entirely justifiable from every standpoint to ease up on your provision for depreciation right now, and have it come after the war rather than to pyramid the whole burden right now.

It may be said, also, that the conclusion which the Commission has reached is in line with the finding of the New York Public Service Commission of the Second District, in the case of the Ithaca Traction Corporation, decided November 14, 1918. In that case the company sought the right to charge 10 cents per passenger, selling tickets, however, at the rate of 12 for \$1. The Commission, instead, has allowed the company to charge a 7-cent fare, selling tickets at the rate of 8 for 50 cents, making the following statement in connection with this determination:—

There is a limit beyond which trolley fares should not go; in fact they cannot be advanced beyond a certain point without disastrous results to the company. In these times of heavy burdens the people should not be required to pay an excessive fare. If they are required to pay such fare the result will be detrimental to the corporation itself. It is practically conceded that dividends have been paid in the past when the money so used "in ordinary prudence" should have been used for the rehabilitation of the property. If the stockholders in the past have received money which ordinary business sagacity should have applied to properly maintaining the road, no complaint can be made if patrons are not required

in these strenuous times to furnish money not alone to make repairs which could have been made in the past but also to pay dividends. In fact the adoption of such a course would be equivalent to a declaration that dividends must be the first concern in the management of a public service corporation.

As will be seen from an examination of the decision of this Commission in the "Bay State Rate Case" of 1916, the facts in regard to the past history of the Bay State company are not dissimilar from those stated by the New York Commission.

If, however, the Commission's plan is unsatisfactory to the company it has the alternative of accepting the provisions of the special act which the General Court at its last session provided for its relief. In this event it will be removed, so far as rates and service are concerned, from the jurisdiction of this Commission, and will be at entire liberty to adjust its fares, under the guidance of the public trustees, in accordance with the "service-at-cost" principle. If the security holders have confidence in this principle and in the general efficacy of higher fares, this act offers an alternative which they may well accept, and it was for this particular purpose that it was provided by the Legislature.

In conclusion we desire to direct the attention of the receiver and his associates to the fact that there is a form of co-operation with the public which they are, in good faith, bound to pursue, and that is to make every feasible effort to secure economy of operation. Undoubtedly the management has been industrious along these lines. Notwithstanding the extraordinary increase in wages and prices, the operating expenses for the coming year, as estimated, are only about 30 per cent in excess of those for the year ended June 30, 1916, a result due to reduction of car mileage and other economies. The Commission is not wholly satisfied, however, with the record. In 1917 a new one-man safety car of modern type was purchased, and an old single-truck car was remodeled along somewhat similar lines for this form of operation. On October 13, 1917, the Commission approved the operation of both of these cars, specified 15 different routes upon which they might be used, and authorized the company to purchase as many more new cars of similar design as it might desire to acquire. The further remodeling of old cars we refused to approve until comparative tests of the old and new type had been made in actual practice; but this question was left entirely open without prejudice, pending the submission of

the results of such tests. Notwithstanding this action by the Commission, however, we find that neither one of these cars has since been operated, but both have been allowed to remain unused in storage.

Upon inquiry we are informed by the vice-president in charge of operation, that he is dissatisfied with the new car and thinks it too complicated; but no effort has been made to test its operation in actual service, and it appears that it is precisely the same type of one-man car which is being operated with apparent success in other parts of the country. We are informed also that the old car has been remodeled again, along lines more nearly in accordance with the vice-president's views; but no petition for the approval of the car so altered has been presented to the Commission, nor has even the right been sought to test it in actual operation. It seems to the Commission from this record that the management is trifling with a matter of very vital importance. We have done what we could to encourage the use of one-man cars of proper design, not only by the Bay State company but by other companies in the state, not because such operation is any pet theory of the Commission, but because it is coming to be recognized very generally in practical street railway circles as one means of helping to solve the street railway problem. From such knowledge as the Commission has, it is led to believe that the Bay State company has many lines which are suitable for the operation of such cars, and upon which they would lead to a very desirable measure of economy. The management will, in our judgment, be open to very justifiable criticism if it does not take steps to test, in the immediate future, this form of operation.

Criticism may also be made of the car mileage obtained per car hour of operation. This figure is still as low as it was in 1916 when the company's record in this respect was criticized by the experts employed by the Commission, notwithstanding the reduction of stopping places and the rerouting of cars which have since taken place. We realize that it is difficult to secure good results with much of the equipment in poor condition, with low voltage on many lines and with a substantial percentage of poor track, but the question of obtaining greater car mileage per car hour is certainly one which calls for further study.

Finally we desire to direct attention to the necessity of keeping a close tally of receipts and operating results on the various lines and divisions of the property. In consideration of the present

schedule the Commission has been greatly handicapped by the lack of adequate information as to the effect, in different sections and upon different routes, of the rates introduced last June. Some data were furnished in regard to the comparative results in the city zones and upon country lines, but upon analysis this proved of doubtful value. Having in mind the results shown by the careful segregation of receipts and expenses made in 1916, the large increase in expense since then and the comparatively small gain in revenue, it is not the opinion of the Commission that the new fares will impose any undue burden upon the city districts. The simplification of the rate structure, however, will make it possible to keep records of earnings more accurately divided than any which are now available, and the company will be expected to be prepared to furnish this information.

It is the desire of the Commission that the new rates which are proposed be made effective as soon as possible. It may be necessary for the company to file an entirely new schedule, but it is probable that a supplement to the tariff now under suspension will suffice. In order that either plan may be followed, this tariff will be further suspended until January 1, 1919, and the company may at once submit to the Commission a supplement or a new schedule, as it sees fit. Upon approval by the Commission of the form of such supplement or schedule, it will be allowed to become effective on short notice.

For the Commission,

ANDREW A. HIGHLANDS,

DECEMBER 12, 1918.

[P. S. C. 2300]

Secretary.

ORDER.

Notice of the Bay State Street Railway Company (Wallace B. Donham, Receiver) of proposed changes in fares for passengers upon its railway.

It appearing that by successive orders of the Commission dated November 8, 1918, December 9, 1918, and December 12, 1918, respectively, the rates and charges described in tariff M. P. S. C. No. 88 of the Bay State Street Railway Company (Wallace B. Donham, Receiver) have been suspended until January 1, 1919, unless otherwise ordered;

It further appearing that a full investigation of the matters and things involved in said tariff has been made and that the Commission, on December 12, 1918, made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, — it is

Ordered, That the Bay State Street Railway Company (Wallace B. Donham, Receiver) be and is hereby notified and required to cancel the rates and charges stated in the tariff specified in said orders of suspension, and to file a schedule or schedules of tariffs in substantial compliance with the rates, fares and charges which were fixed by the Commission in the findings of facts and the conclusions thereon in said report, as the just and reasonable rates, fares and charges to be charged and collected by said company during the period specified in said report.

And it is

Further ordered, That a copy of this order be filed with said tariff at the office of the Commission, and that a copy hereof be forthwith served upon the Bay State Street Railway Company (Wallace B. Donham, Receiver).

Attest:

ALLAN BROOKS,

DECEMBER 20, 1918.

[P. S. C. 2300]

Assistant Secretary.

BOSTON AND ALBANY SWITCHING CHARGES.

Petition of National Dock and Storage Warehouse Company relative to certain rates charged by the Boston and Albany Railroad Company.

ROBERT HOMANS	}	for National Dock and Storage Warehouse Company.
EDMUND D. CODMAN		
G. R. SIZER		
GEORGE H. FERNALD, JR.,	}	for Boston and Albany Railroad Company.
RICHARD VAN UMMERSEN		
FRANK L. MARTIN		

The petitioner is a Massachusetts corporation owning and operating wharves and warehouses on the East Boston water front, adjacent to similar wharves and warehouses owned and operated by the Boston and Albany Railroad Company. The rails of the latter company reach both its own piers and warehouses and those of the petitioner, and provide a means of transportation between them. The National Dock and Storage Warehouse Company has direct rail connections with no other carrier.

In substance, the petitioner complains that the Boston and Albany Railroad Company makes a switching charge on freight moving from its own piers to the petitioner's warehouses, but in effect makes no similar charge on freight moving from its own or the petitioner's piers to its own warehouses. This practice, the petitioner claims, is unjust and unreasonable, unjustly discriminatory against the warehouses of the National Dock and Storage Warehouse Company, and unduly preferential to the warehouses of the Boston and Albany Railroad Company. It therefore prays that the Commission determine the just and reasonable rates and charges to be charged for the transportation service performed by the Boston and Albany Railroad Company, as set forth in the petition, and fix the same by order.

At the time of the public hearing the switching charges in question were governed by Boston and Albany Railroad tariff M. P. S. C. No. 907, I. C. C. No. 7430, and were stated in the following clause: —

4. On import freight handled at the Boston and Albany Railroad and National Dock and Storage Warehouse Company's docks for delivery to

warehouses and industries with which the Boston and Albany Railroad has track connections at East Boston and to the Grain Elevator at East Boston, the charge from ship's side will be 50 cents per net ton (2,000 pounds), minimum charge, \$5.00 per car.

Since the hearing, this tariff has been superseded by another, I. C. C. No. 8206, "initiated by the President of the United States through the Director-General, United States Railroad Administration." This latter tariff has been filed with this Commission "for information only" and was made effective, under a claim of paramount authority, without compliance with the statutes of Massachusetts. For convenience in reference, it has been numbered by the Commission "M. P. S. C. No. 1296." It contains a provision identical with the one above quoted, except that the rate is advanced to "60 cents per net ton (2,000 pounds), minimum charge \$6.50 per car."

While this tariff, on its face, applies this switching charge from the Boston and Albany docks and the petitioner's docks to the Boston and Albany warehouses, as well as from the Boston and Albany docks to the petitioner's warehouses, it is the contention of the latter that this is not the real situation, because of a provision in Boston and Albany Railroad tariff M. P. S. C. No. 955, I. C. C. No. 7514, naming rates for storage on property stored in Boston and Albany Railroad warehouses at East Boston. This tariff fixes storage rates on the various commodities handled for the "first month or part thereof," and other rates for "each succeeding month or part thereof," and further provides: —

The rates for the first month or part thereof include the cost of moving the property from Boston & Albany Railroad piers or other East Boston piers into the warehouse and the cost of loading into cars from the warehouse.

The petitioner urges that it is illegal for the Boston and Albany Railroad Company thus to include a transportation charge in its charges for other and distinct services, but also claims that, if the Commission should find that the railroad company is really making a switching charge to its own warehouses, and to that extent reducing its storage charge for the first month, then the storage charge or the whole practice of the railroad company is illegal, because "it thereby for the sake of unjustly preferring itself in one kind of business, makes its rates lower than the total cost to it of all the services it performs."

The Boston and Albany Railroad Company is licensed in Massachusetts as a public warehouseman, but under the statutes

(R. L. c. 69, § 1) it is not "required as such to receive any property except such as has been or is forthwith to be transferred over its road." The company states that the warehouses are not operated as an independent enterprise, but rather as an adjunct to its transportation service, as an "incident to the conduct of the import and export business" (Record, p. 146). They have especial value in enabling the company to clear its docks of freight and facilitate the prompt discharge of vessels, and it seems that the bulk of the freight stored eventually leaves the warehouses over its rails. Nevertheless, the Boston and Albany solicits and receives storage generally, without regard to ultimate movement, and a substantial percentage of the business is teamed to or from the plant. Its warehouses are in active competition with those of the petitioner and handle much the same line of commodities, wool being the principal item in both cases. Freight stored by the petitioner is as likely to move in or out over Boston and Albany rails as though it were stored by the railroad itself. Much evidence was introduced in regard to the history and physical characteristics of the warehouses of both companies, the storage rates charged by both at present and in the past, and the sufficiency or insufficiency of the earnings received by the railroad company from this source. As we view the case, however, this evidence is not material and need not now be summarized.

It is generally conceded that storage is one of the incidental duties of a common carrier. Congress has recognized this in the "Act to Regulate Commerce," section 1 of which provides that "the term 'transportation' shall include cars and other vehicles and all instrumentalities and facilities of shipment or carriage, irrespective of ownership or of any contract, express or implied, for the use thereof and all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage, and handling of property transported." It is also recognized by the laws of this Commonwealth, not only in chapter 69 of the Revised Laws referred to above, but in the so-called "Public Service Commission Law" (St. 1913, c. 784), which provides in section 2 that the services over which the Commission is given jurisdiction shall include: —

(b) The operation of all conveniences, appliances, facilities or equipment utilized in connection with, or appertaining to, such transportation or carriage of persons or property or such express service or car service, by whomsoever owned or by whomsoever provided, whether the service be common carriage or merely in facilitation of common carriage.

In *National Dock and Storage Warehouse Company v. Boston and Albany Railroad Company et al.*, 33 I. C. C. 330, it was expressly stated by the Interstate Commerce Commission that the "storage charges of the Boston and Albany are filed with this Commission and are and must be uniform as to all shipments." Whether or not the Interstate Commerce Commission or this Commission has jurisdiction over the storage rates, where the property reaches the warehouse and leaves it by other means than the Boston and Albany rails, may be in doubt, but certainly such jurisdiction exists where the storage is incidental to a prior or subsequent rail movement, and this was admitted by counsel for the railroad company (Record, p. 336). It is also clear that the storage service rendered by the railroad company is essentially the same in all cases. Whether the goods come from the piers of the petitioner, or from the Boston and Albany's own piers, or arrive by rail or team from other points, and whether or not they leave by team or rail or in other manner, the character of the work performed at the warehouse remains unchanged. Once the sill is passed, the railroad company does not and cannot discriminate between commodities because of the source from which they were received, or their ultimate destination, and renders identical storage service.

In the light of these facts, the present practices of the railroad company, of which the petitioner complains, may now be examined. South American wool, which has constituted one of the chief items of storage, may be taken as an illustration. Two bales of this wool weigh approximately one ton. The storage rate in the Boston and Albany warehouse for the first month (M. P. S. C. No. 955) is 45 cents per bale or, in other words, about 90 cents per ton. The switching charge from the petitioner's piers (and it seems from the Boston and Albany piers as well) to this warehouse is now 60 cents per ton (I. C. C. No. 8206, applicable to both interstate and intrastate traffic); but this rate is absorbed by the storage rate for the first month. It follows, therefore, that the owner of South American wool which moves to the warehouse in this manner actually receives storage for the first month at the rate of 30 cents per ton, the balance of the 90 cents covering charges for switching from the piers.

In contrast, the owner of South American wool which reaches the warehouse by team or rail from Commonwealth Pier in South Boston or some similar point, pays at the full rate of 90 cents per ton for identical storage service. Yet this latter wool may ultimately leave the warehouse by rail and move to some point on

the Boston and Albany main line, whereas the wool brought from the petitioner's piers may leave by team to some local industry in the city. In either case the storage rate is assessed and collected without regard to ultimate movement or destination.

This statement of undisputed facts is sufficient in itself to prove that unmistakable discrimination exists in the case of storage rates over which this Commission or the Interstate Commerce Commission has admitted jurisdiction. Before determining how the situation may be remedied, however, there are certain subsidiary issues which must be considered.

The railroad company claims that the National Dock and Storage Warehouse Company is neither shipper nor consignee; therefore no discrimination against it exists and it has no standing before the Commission. The "Public Service Commission Law" is very broad. Section 22 provides that, when the Commission "shall be of opinion, after a hearing had upon its own motion or upon complaint," that the rates charged by any carrier for any service performed within the commonwealth, "are unjust, unreasonable, unjustly discriminatory or unduly preferential, or in any wise in violation of any provision of law," the Commission shall determine the just and reasonable rates thereafter to be charged. Under this provision the present proceedings might have been instituted by the Commission upon its own motion, without complaint or petition from any source. In the face of this it will hardly be held that the Commission is impotent to act because the unjust conditions have been brought to its attention by the petitioner, rather than independently ascertained by the Commission itself. Aside from this fact, it is clear that the petitioner is an interested party, subjected to disadvantage by the rates against which complaint is made. The railroad company did not absorb the charges in question prior to 1913 (Record, p. 150) and adopted the practice to attract storage business (Record, pp. 168, 169). Manifestly, any business gained may, in many instances, have been lost by the petitioner.

The railroad company also states, what is quite true, that not all discrimination is unlawful, but only unjust or unreasonable discrimination. In the present instance, however, there seems little room for doubt on this score. To charge 90 cents per ton in one case and 30 cents in another for precisely the same storage service is certainly *prima facie* unjust and unreasonable, and no evidence has been offered sufficient, in our opinion, to rebut the presumption. Under certain conditions competition has been

held to justify discrimination in railroad charges, but it does not appear that such conditions exist in this case. The Boston and Albany storage plant at this point is admittedly modern and well equipped and superior, on the whole, to the plant of the National Dock and Storage Warehouse Company. It has the advantage of location immediately adjacent to the Boston and Albany docks, and the further advantage of being operated as an adjunct to the railroad system, without the same overhead expense of management or all the costs of operation which would be incident to an independent enterprise. No attempt is made by the railroad company to segregate the operations of the storage plant with a view to determining the profit or loss upon the investment, and to use the company's own words, the "warehouses physically are part and parcel of its terminal property at East Boston and practically cannot be separated arbitrarily merely as an accounting matter." (See Brief filed by Counsel.) The advantage which such a plant has, compared with properties which have not the support of a great railroad system, is obvious, and competition is not a sufficient reason for discriminating in charges between storage customers.

It was suggested by the railroad company that there might be a question as to the jurisdiction of this Commission. This point, however, was not pressed, and it is our understanding that jurisdiction was virtually conceded. The warehouse operations, of course, are wholly within the commonwealth and, even if storage be regarded in many cases as merely a temporary pause in the movement of freight, little question exists that the entire movement, even of import freight, from the piers to final destination is often intrastate in character. A similar point was raised in connection with the Commonwealth Pier in South Boston, and upon reference of the question to the Attorney-General he replied to the Commission, under date of August 31, 1915, in part as follows: —

In my opinion, if, before the arrival in port of goods shipped from abroad to the Commonwealth Pier, the intention or understanding of the parties is that their ultimate destination is to be another intrastate point, a shipment in pursuance of such intention is to be considered as a part or a continuation of a foreign shipment and does not constitute an intrastate movement.

On the other hand, if the Commonwealth Pier was intended to be the ultimate destination and a re-shipment of the goods from the pier to an intrastate point was determined upon only after the arrival of the goods in port, I am of the opinion that the shipment from the pier to such intra-

state point is intrastate in its character within the meaning of your order of March 29, 1915, and it is immaterial that the goods came originally from outside the Commonwealth.

It is not denied that some of the movements of freight from the docks of the Boston and Albany or of the petitioner through warehouse to destination are intrastate under the rule thus laid down.

A further question relates to the procedure to be followed by the Commission under the statutes, requiring the removal of discrimination. This matter has recently been considered by our Supreme Court. In *National Dock and Storage Warehouse Company v. Boston and Maine Railroad*, 227 Mass. 197, the petitioner sought to secure a writ of mandamus to compel the railroad company to desist from violating an order of the Commission directing it to discontinue unjust discrimination in rates. The discrimination was caused by the absorption of switching charges over the tracks of a connecting carrier to and from the Commonwealth Pier, and the failure to absorb the like charges to and from the wharves of the petitioner, the absorption of the former charges being due to the provisions of a special contract with the Commonwealth. There were two ways of removing the discrimination. One was to absorb the charges in the case of the National Dock and Storage Warehouse Company, and the other was to cease to absorb the charges in the case of the Commonwealth Pier. The company chose the latter method but was enjoined from putting the new rates into effect by court order, upon the application of the Commonwealth in a suit to enforce specific performance and to restrain the violation of the contract above referred to.

Soon after this injunction the Commission informed the company by letter that, since the method selected for complying with the order of the Commission had not proven feasible, it must comply by other means, and pointed out that this could be done, if in no other way, by absorbing the switching charges to and from the wharves of the National Dock and Storage Warehouse Company. The following statement was also made: —

Whether such a compliance would result in unreasonably low rates for the service rendered it is unnecessary for the Commission at this time to decide. The opportunity to raise that issue is always open to the company under the statutes.

In other words, if the absorption of the switching charges resulted, in connection with existing rates for the haul upon its own

road, in unreasonably low compensation to the Boston and Maine Railroad for the service rendered, it was free at once to file new tariffs with the Commission increasing these rates. The removal of the discrimination against the National Dock and Storage Warehouse Company in no way, it seemed to the Commission, imposed obstacles to such procedure. The Supreme Court, however, decided that the Commission acted without authority of law and that, before ordering the Boston and Maine Railroad to remove the discrimination, it should have proceeded, if we understand the decision correctly, to determine and fix the rates which would thereafter be just and reasonable for the haul upon that road.

"Orders to remove discrimination, as commonly framed, do not fix rates. They merely determine the relation of rates, by prohibiting the carrier from charging more for carriage to one locality than under similar conditions to another; and they usually leave the carriers free to remove the discrimination either by raising the lower rate or by lowering the higher rate or by doing both." See *St. Louis S. W. Ry. Co. v. United States*, 245 U. S. 136, p. 145. The case above mentioned, which was considered by our own Supreme Court, differed from the usual discrimination case, in that it was necessary, under the peculiar circumstances existing, to lower the higher rate in order to remove the discrimination. The following passages from the decision point this out clearly (*italics ours*): —

An order baldly directing a carrier to remove a discriminatory rate *when the only possible way in which that discriminatory rate can be removed is by making a substantial reduction in its rates*, and where there is no election to raise some rates or reduce others, without at the same time determining what is a reasonable rate, is not an exercise of the jurisdiction conferred (p. 202).

When the orders of the commission according to its own statement *required a reduction of rates*, it must make a further decision based on evidence that such reduced rate would be fair and reasonable and not confiscatory before its earlier orders would be ripe for enforcement (p. 202).

In the present case it is quite unnecessary to reduce any rate, for the discrimination complained of can be removed merely by discontinuing the present practice of absorbing the charge for switching by the storage rate. While the petitioner is of opinion that the latter rates are insufficient to yield a reasonable return upon investment, the railroad company apparently holds a contrary view, and in any event would not be prevented, by an order requiring the discontinuance of absorption, from raising

the rates if that should prove necessary to secure reasonable compensation for service rendered. In other words, for present purposes the reasonableness of the storage charges, aside from the absorption, may be assumed, no reduction of rates is involved, the only issue presented is the relation of rates, and, if the Commission establishes a proper relation, it will in our judgment do all that the statute requires.

Summarizing the situation, the Commission is of opinion that the present practice of the Boston and Albany Railroad Company, prescribed in its tariff I. C. C. No. 7514, M. P. S. C. No. 955, under which the rates named for storage of property in its warehouses at East Boston for the first month or part thereof include the cost of moving the property from the Boston and Albany Railroad piers or other East Boston piers into the warehouse, results in a material variation in the charge for identical storage service; that such variation is unjustly discriminatory; that the matter has been properly presented to the Commission; that it has jurisdiction and power to require the removal of the discrimination complained of, so far as it relates to intrastate traffic; and that the discrimination ought to be removed by ceasing the absorption of the switching charges as above described. In other words, the storage charge should be separate and distinct and should not include the charge for any other form of service; but this is not to be taken as a finding that the railroad company may not, in any given case, absorb the switching charge in the rate for some longer rail haul. In view of the fact, however, that the Boston and Albany Railroad is now under direct control of the federal government, which was not in any manner made a party to the proceedings, the Commission feels that it is sufficient at present for it to state the facts and its conclusions with respect thereto, believing that the United States Railroad Administration, when the situation is thus brought to its attention, will effect the desired change. In the meantime, and until such change is made, the case will be kept open, and the Commission will be prepared at any future time to take such further action as may seem appropriate and necessary. If the federal authorities should for any reason desire a rehearing, it will be granted.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 29, 1918.

[P. S. C. 1602]

Secretary.

BOSTON, REVERE BEACH AND LYNN RATES.

Notice of Boston, Revere Beach and Lynn Railroad Company of proposed increase in rate of passenger fares upon its railway.

The Boston, Revere Beach and Lynn Railroad Company operates a ferry service between Boston and East Boston and a narrow gauge railroad from the latter point to Lynn. It also operates a loop line in the town of Winthrop about $4\frac{1}{2}$ miles in length, connecting with the main line at Orient Heights in East Boston. Under the passenger rates now in effect the fare is 5 cents from Boston to any station in Winthrop, a maximum distance of about 6 miles, or as far as Point of Pines, Revere, on the main line, a distance of about $7\frac{1}{2}$ miles. The charge for the ride of $9\frac{1}{4}$ miles to Lynn is 10 cents. No commutation or other reduced-rate tickets are sold. In the above distance the ferry ride is computed at its actual length, about 1 mile, although the company claims that the separate operation of this service represents an expense equivalent to the operation of 3 additional miles of railroad track.

The company now desires to raise the unit of fare from 5 cents to 7 cents, making the charge from Boston to Lynn 14 cents and the charge to Revere or Winthrop 7 cents, an increase of 40 per cent. A tariff to this effect was filed on May 8, 1918. Pending investigation, it was suspended until July 1, 1918. The present charge for ferry service alone between Rows Wharf and East Boston is 3 cents, which can be reduced to $2\frac{1}{2}$ cents by the purchase of tickets, and this charge is not changed in the new tariff.

During the past twenty years this road has been a very important factor in the rapid growth of the suburban communities of Winthrop and Revere and in the development of the great seaside pleasure resort, Revere Beach. The following comments in regard to the service which it affords, taken from a report on the "Transportation Needs of Metropolitan Boston" made to the Commission in 1915 by William B. Bennett, are of interest in this connection: —

... It has active competition for traffic between Boston and Lynn in both the Boston and Maine railroad and the Bay State street railway. The former it meets with more frequent service and a lower rate of fare;

the latter with a faster schedule. . . . The present schedule of fares was instituted in May, 1899, and that date marks the beginning of a remarkable and steady increase in the amount of business done. The total passengers carried has increased from 3,772,431 for year ending June 30, 1899, to 19,829,240 for the year ending June 30, 1914. . . . This road handles a tremendous summer traffic to and from Revere Beach.

In its report to the General Court in the same year upon the same subject matter the Commission took occasion to make this statement (3 P. S. C. Rep., p. 411): —

. . . In passing from this subject we may say also that no convincing reasons have as yet been presented to justify the suggested merger of the Boston, Revere Beach and Lynn Railroad Company with the Bay State Street Railway Company or the Boston Elevated Railway Company or with any consolidated company embracing these two systems. At present the "Narrow Gauge" road is the one transportation company within the metropolitan district whose patrons seem entirely satisfied with its fares and service. So long as that happy condition continues we can see nothing to be gained by destroying its separate identity.

As this indicates, the relations between this company and the communities which it serves have always been very friendly. They have felt that it gives good service and is responsive to their needs, and this feeling was manifested in marked degree at the hearings upon the pending petition.

The capitalization of the company is as follows: —

Stock,	\$850,000 00
Premiums on stock,	56,936 85
Bonds,	1,000,000 00
Premiums on bonds,	11,902 50
Notes payable,	170,000 00
<hr/>	
Total,	\$2,088,839 35

The stock was issued prior to 1894 and without public supervision, although some of it was sold at auction at a price above par. The bonds, however, were issued with the approval of the Board of Railroad Commissioners and it appears that in 1897, in connection with one of these issues, the Board satisfied itself by an examination of the property of the integrity of the outstanding stock; but the evidence on this point is not clear. It is the present opinion of the Commission, based on the general knowledge which its experts have of the property, that there has been no inflation of the capitalization, but no positive finding is made

upon this point at this time and it is reserved for further consideration in connection with subsequent action on this case. The interest rate upon the bonds is $4\frac{1}{2}$ per cent. During the past 20 years dividends of 2 per cent per annum were paid from 1898 to 1905, 4 per cent in 1906, 5 per cent in 1907 and 6 per cent from 1908 to 1917, inclusive. An extra dividend of 2 per cent, however, was paid in 1916.

The accounts of the company for the past six years have been examined by the accountants of the Commission and no items were found which seemed to call for serious criticism. The property has been well maintained and the provision for depreciation has been generous. On December 31, 1917, the depreciation reserves amounted to \$258,280, in addition to a profit and loss surplus of \$143,354. Until recent years it was the custom of the company to write down the value of the property, rather than to set up a reserve, and the following table shows the original cost of the equipment as compared with its present book value:—

	Original Cost.	Book Value.
Locomotives,	\$228,100	\$76,377 94
Cars,	375,200	182,056 95
Ferry boats,	272,000	131,000 00
Total,	\$875,300	\$389,434 89

During the past five years revenue has increased very slowly and operating expenses more rapidly, as follows:—

	1913.	1917.	Increase.	Per Cent.
Operating revenue,	\$1,003,492 45	\$1,048,142 56	\$34,650 11	3.45
Operating expenses,	879,609 55	923,439 24	43,829 69	4.98

The comparatively small increase in expense thus shown, however, is misleading, since the cost in 1917 was only kept down by a reduction in maintenance expenditures. In 1913, \$262,937.58 was expended for this purpose and in 1917 but \$156,813.97. The item, "Conducting Transportation," increased in the same period from \$559,010.37 to \$723,960.96, or nearly 30 per cent.

In the calendar year 1917 the company failed by \$1,545.92 to earn the dividends of 6 per cent which it paid. The company bases its claim for increased rates upon the advance during the

current year in the price of fuel and supplies and in wages. Up to April, 1917, coal cost it about \$4 per ton, while it is now costing a little more than \$10. In 1917 the average price was \$6.70. By comparison, the present price means an additional charge per year of about \$105,000. It will also be necessary for the company to raise the wages of its employees to the level recently fixed by the Wage Board in Washington for the railroads which are under federal control, and this will mean about \$172,000 more per year. The total of these two items is \$277,000. While this sum does not equal the theoretical increase of about \$400,000 in revenue from the proposed change in rates, it is to be borne in mind that the raising of fares is likely to cause some falling off in traffic, that the cost of other supplies besides coal is increasing, that maintenance expenditures were curtailed in 1917, and that service was reduced. In the effort to save expense the quality of the service has already suffered.

The remonstrance was largely confined to subsidiary issues and there seemed to be a general feeling that the company needs additional revenue and is fairly entitled to an increase in rates. Representatives of Lynn and Revere felt that the regular riders who use the road day in and day out all the year around are entitled to special commutation rates, as compared with those who travel occasionally, especially the pleasure seekers who ride to and from Revere Beach in the summer season. Representatives of Winthrop, and also of Revere, felt that the 5-cent rate should be maintained on the short rides between stations within the same town. Representatives of East Boston urged that 7 cents was too high a charge for the ride between their district and Boston.

The policy of the road since 1899 has been to charge the lowest possible uniform fare to all riders, instead of following the usual steam railroad practice of making a comparatively high single-ticket rate and providing commutation tickets on a low basis; and the management feels that this policy has had a great deal to do with the growth of traffic and the rapid development of the communities which the company serves. Even under the proposed new rates, the fare of 14 cents between Boston and Lynn would be at the rate of only about 1.44 cents per mile, as compared with the single-ticket rate of 3 cents per mile now in force on the steam railroads. Much can be said in favor of commutation rates, but their introduction might make it necessary to increase the single-ticket rate, a result which might not operate to

the advantage of the patrons of the road. The argument in favor of a 5-cent rate between stations within the same town on the whole is stronger, and such a rate, by preventing a falling off in this short-distance traffic, might be beneficial to the company as well as to the communities. There are practical difficulties, however, in the collection of the fares. Traffic on the road is heavy, particularly in the summer months; the distances are short; and the company is naturally desirous of avoiding any additional complexity in operation. The loop in Winthrop adds to the difficulty in this instance.

Under an arrangement which has been made with the management, however, the decision of both these questions may reasonably be postponed. The president has agreed in writing that, if the tariff is permitted to take effect as filed, the company will, "in respect to any complaints filed with the Commission or made at the hearings upon such tariff, assume and carry the burden of proof in the hearing and decision of such complaints in the same manner and with the same effect as if said tariff had been further suspended and the question was still pending as to whether it should be permitted to take effect." Further investigation is needed before the Commission will be warranted in deciding either that the company ought or that it ought not to be required to introduce reduced-rate tickets for regular riders or to maintain a 5-cent fare between stations located within the same town; but we do not feel that it would be just, under present conditions, to debar the company from any increase in revenue by the further suspension of the pending tariff while these matters are under consideration, especially since the summer traffic supplies so large a percentage of its earnings. These subsidiary questions will be kept open, however, without prejudice; further hearings will be given if they are desired; and, if not, the Commission will in any event continue its own investigation and take such action as the facts show to be reasonable and desirable.

In the meantime, in view of the history of this company, the quality of the service which it has given and the increased burdens brought about by war conditions, the Commission believes that it is just and reasonable to allow the tariff now under suspension to take effect.

For the Commission,

ALLAN BROOKS,
Assistant Secretary.

JUNE 29, 1918. [P. S. C. 2138]

BOSTON AND WORCESTER RATES.

Notice of the Boston and Worcester Street Railway Company of proposed change in rate of fare for passengers upon its railway.

GUY W. COX for Boston and Worcester Street Railway.

CHARLES J. MCCARTHY }
R. H. BEAUDREAU } for City of Marlborough.

F. H. HILTON for Town of Framingham.

WILLIAM J. NAPHEN for Town of Natick.

RAYMOND B. FLETCHER for Town of Shrewsbury.

R. H. OVESON for Town of Southborough.

CLARENCE A. BUNKER for Town of Wellesley.

CORNELIUS F. KEATING for Village of Overbrook.

On September 22, 1917, the Commission, after full investigation, permitted the Boston and Worcester Street Railway Company to substitute for its then existing system of irregular and overlapping zones, in each of which the cash fare was 6 cents, a mileage zone system of charging. (See 5 P. S. C. Rep., pp. 47-63.) The new tariff became effective October 1, 1917.

Under it the road was divided into sections about one mile long and a rate of 2 cents per zone established, with a minimum fare of 6 cents for a ride covering three zones or less. One hundred mile books are sold for \$1.70, round-trip tickets are sold at a similar discount of 15 per cent, and in Marlborough special workmen's tickets are still provided at the rate of 30 for \$1. To serve as a connecting link between the old and new tariffs and prevent the throwing of too severe a burden upon regular riders by the change in any given case, the Commission also required the sale of 20-trip tickets, limited to the person named thereon and good for a period of one month, enabling the purchaser to ride between any two designated points upon the railway at a rate of 50 per cent in excess of the old cash or trip ticket rate. It was estimated by the company that the new rates would increase revenue about \$74,000 per year.

This schedule was approved for an experimental period of six months, upon the understanding that the hearings might be

reopened at the end of that time, upon the application of any interested party, for further consideration upon the basis of the experience gained. The company has now filed a new tariff, leaving the mileage zones unchanged, but increasing the rate from 2 cents to 2½ cents and making a similar increase of 25 per cent in the charge for all reduced-rate tickets, except the working-men's tickets in Marlborough. The minimum fare of 6 cents for a ride of three zones or less, however, is retained. It is estimated that this new tariff would increase passenger earnings not more than \$146,830. The effective date is July 26, 1918, unless the tariff is suspended or cancelled by order of the Commission, but the company asks for a special order permitting the new rates to take effect before that date to meet an existing emergency.

The results from the new system of charging so far have been disappointing. By months they have been as follows:—

MONTH.	1916.	1917.	Increase.	Per Cent.
October,	\$56,867 38	\$58,972 49	\$2,105 11	3.70
November,	48,693 98	54,495 48	5,801 50	11.91
December,	51,344 00	48,721 29	2,622 71d	5.10d
	1917.	1918.		
January,	44,689 69	42,199 83	2,489 86d	5.57d
February,	38,512 46	27,985 35	10,527 11d	27.33d
March,	45,166 57	42,175 52	2,991 05d	6.62d
April,	49,636 81	45,151 55	4,485 26d	9.03d
May,	50,606 44	53,700 27	3,093 83	6.12
June,	58,285 44	61,723 63	3,438 19	5.89
	\$443,802 77	\$435,125 41	\$8,677 36d	1.96d

d Deficit.

The results for the first two months were encouraging, the gain in the second month exceeding the estimated 10 per cent. During the winter season, however, the situation changed rapidly for the worse. Much of the falling off was undoubtedly due to the poor service brought about by ice and snow and the severe cold weather. The Boston and Worcester operates an interurban line of comparatively high speed and is in direct competition at most points with the Boston and Albany railroad, so that its business is peculiarly sensitive to interruptions and delays in service. Probably the increase in fares has caused a reduction in traffic, but the management is very positive in its belief that the poor showing of the company has been due chiefly to the weather con-

ditions and to changes resulting from the war. Many of the young men in its territory have gone into military service, women are doing war work and traveling less frequently, and the thrift campaign has also had its effect.

The decrease in passenger earnings has been offset by a gain in freight revenue, but operating expenses have increased even more rapidly. The company submitted a statement of estimated earnings and expenses for the six months ended June 30, 1918, compared with the corresponding period of the previous year, which, in condensed form, was as follows: —

	1917.	1918.
Income: —		
Passenger,	\$286,384	\$275,480
Freight,	60,164	77,736
Miscellaneous,	7,057	6,164
Total,	\$353,605	\$359,380
Operating expenses,	261,115	327,230
Net above operating,	\$92,490	\$32,150
Taxes,	\$24,293	\$24,443
Interest,	59,771	63,208
Preferred dividends,	13,716	13,716
Total,	\$97,780	\$101,367
Balance,	\$5,290	\$69,208 ^d

^d Deficit.

Expenses were estimated for May and June in 1918, and income for June, but the remaining figures were actual.

Assuming that passenger earnings decrease \$25,000 during the remaining six months in 1918, owing to the fact that the State Muster Field at Framingham will not be used to the same extent as last year, that freight earnings continue to increase in the same ratio and that expenses will be no greater than they were in 1917, the company estimates that the deficit for the year, after paying operating expenses, taxes, interest and dividends on preferred stock, will be about \$12,582. If the proposed new passenger tariff is allowed, the yearly gain, as already indicated, is estimated at \$146,830, the amount obtained by reckoning a full 25 per cent increase on the traffic which pays more than the minimum fare of 6 cents. In addition, the company expects to receive \$41,707 from a 25 per cent increase in its freight rates which has recently gone into effect, making a total gain of \$188,-

527. About \$59,500 of this will be needed, the management states, to pay increased wages to its employees over and above the wages paid in 1917, part of this being due to the award of a board of arbitration in February of this year, and the remainder to a further voluntary increase of 10 per cent on July 1, 1918, which proved necessary to hold the men in the face of rapidly rising wages on other railways and in other employments. The balance will be less by \$5,045 than enough, after meeting the deficit of \$12,582 above estimated, to pay dividends of 6 per cent upon the common stock.

How close to the facts this estimate will prove is problematical. The following factors, for which no allowance has been made, seem likely to operate to the company's advantage: —

(1) It is not at all probable that weather conditions will be as severe during the coming winter as they were last year, and traffic ought to be better on this account.

(2) These weather conditions not only decreased revenue but increased expense. Expenditures for maintaining equipment were very heavy during the first six months of 1918, and much of this was due to the damage to motors, air brake apparatus and trucks caused by ice and water. As a result of the repair which became necessary, this part of the equipment is now in better shape than it was at the same time last year.

(3) The increase in rates was not in effect in July, August and September of 1917, but no allowance was made for this fact in the company's estimate. Some slight increase has been shown in May and June, and this might continue in the following three months. It is fair to say, however, that the company argues that the increase in May and June was due to the better weather conditions this year and to the fact that there were five instead of four Sundays in June. During the last 12 days of that month revenue fell off.

(4) The increase in freight revenue has been limited by the ability of the company to handle the traffic which has been offered. Congestion on the steam railroads and high rates have created an excellent opportunity for the development of this business. The company has ordered six new freight cars and, when these are received, should be able to add even more rapidly to the revenue from this source. The cost of operation, however, is high, so that the actual net gain is not likely to be large.

(5) It is possible, also, that freight rates may be increased above the 25 per cent estimated. As yet the class rates on the Boston and Albany railroad, with which the Boston and Worcester is in competition, have been increased only the 25 per cent recently authorized by the Director-General. The increase approved by the Interstate Commerce Commission in April of this year has not been made, but is contemplated. If this further increase takes effect, a corresponding raise will probably be made by the Boston and Worcester.

(6) The reduction in the number of stopping places, in the heat supplied to the cars in cold weather, and in service, recommended by the State Fuel Administration for the conservation of coal, will probably add somewhat to economy of operation, although similar steps were taken to a certain extent in the latter part of 1917.

On the other hand, the company has estimated a full 25 per cent gain in revenue from the traffic to which the proposed 25 per cent increase in rates is applicable, and no experience which the Commission has had with similar increases would justify it in believing that so large a gain is likely to be realized. The margin in favor of the monthly commutation rates upon the competitive railroad line will be increased and, while the Boston and Worcester has never attempted to compete for the commutation business, it is possible that this enhanced margin will make these low rates preferable for even some occasional riders. The company has also made no allowance for probable increase in certain items of expense, apart from higher wages, in comparison with the last six months of 1917, nor for a more nearly adequate provision for depreciation. It is true, furthermore, that, even with the recent 10 per cent increase, the wages of the men are not so high as the wages recently granted by the Worcester Consolidated and other street railway companies, and the company has promised to give this matter consideration in November. A further increase is by no means a remote possibility.

Taking all the circumstances into consideration, the Commission feels that there is little reason to believe that the proposed increase in passenger fares would result in anything approaching excessive profits to the company. The rate of 2½ cents per mile is substantially lower than the single ticket rate of 3 cents now in effect upon all steam railroad lines, and is the same rate which has recently been established on many electric interurban lines in the Middle West, to which this road bears a closer resemblance than any other street railway in Massachusetts. Parenthetically, it may be said, however, that the Commission feels that this company, in view of its past earnings, ought not to seek to pay dividends in excess of 5 per cent upon its common stock under war conditions, and, if anything above this point is earned, which is not likely, it should be used for the improvement of the property and service.

There are some apparent inconsistencies in the new schedule. One is the minimum fare of 6 cents for a ride of three zones or less, as a result of which the fare jumps suddenly in the fourth

zone from 6 cents to 10 cents. A more logical minimum would be 5 cents for a ride of two zones or less. The company states, however, that in view of the high speed operation it would be difficult to collect fares within a space of two zones on certain portions of the line, particularly after leaving the Chestnut Hill terminal. It also states that the great majority of those who pay the minimum fare ride less than three zones — many of them not more than 1 mile — so that the discrimination against the long riders is more apparent than real. Another inconsistency is the retention of the very low rate for workingmen's tickets in the city of Marlborough. It appears that the reason for this is the unusual situation which exists on that portion of the branch to Hudson. Two short cross-town lines are operated in Marlborough with small single-truck cars. The manufacturing district is centrally located and the average ride taken by the workingman is very short. If a higher fare were established, the company believes that it would lose the bulk of its traffic on these cross-town lines and gain no compensating advantage.

Comparatively little remonstrance was offered at the public hearing to the proposed new fares, and the chief complaint came from the residents of the so-called Overbrook section in Wellesley and Natick. Prior to the increase in rates last fall, the Boston and Worcester had in effect a 20-ride ticket book selling for \$1.50, which afforded a $7\frac{1}{2}$ -cent fare between Chestnut Hill and any part of Wellesley, and the resulting situation was described by the Commission as follows (5 P. S. C. Rep., p. 59): —

. . . Because of this low rate, in recent years a considerable number of persons of small means doing business in Boston have bought land and established homes in the Overbrook section. They now complain that, if the mileage system of charging should be adopted, their fare would be increased from $7\frac{1}{2}$ cents to 16 cents at the maximum, and, if the tickets are used, to 13.6 at the minimum, and they claim that such an increase would be ruinous to the district in which they live.

It was this situation, in particular, which led the Commission in its decision in that case to require the sale of "20-trip ticket books, limited to the person named thereon and good for a period of one month, which will enable the purchaser to ride between any two designated points upon the railway at a rate of 50 per cent in excess of the existing cash rate or of the trip ticket rate where such tickets are now sold." In the case of Overbrook, the fare available by the use of these ticket books is now $11\frac{1}{4}$ cents,

and it has proved to be the only point where there has been a demand for this special rate.

The Overbrook section is practically dependent upon the electric line for transportation to and from Boston, there being no station of the Boston and Albany road in the immediate vicinity. Under the proposed new schedule the cash fare would be increased to 20 cents per ride, the mileage rate to 17 cents, and the 20-ride monthly ticket rate to 14½ cents. The remonstrants urged that this increase would be more than the residents of this section could stand, and would lead either to the use of the Boston and Albany steam line or the Middlesex and Boston electric line from Wellesley into Boston, or to the removal of population from that locality.

The desirability, under present conditions, of avoiding too severe a burden upon regular riders, who use transportation facilities daily in going to and from their work, has been recognized by the United States Railroad Administration in increasing the steam railroad passenger fares. While the single-ticket rate has been advanced in Massachusetts from 2½ cents to 3 cents per mile, the commutation rates, although they are very low, have as yet been raised only 10 per cent. It seems to the Commission that, in view of its peculiar dependence upon the Boston and Worcester, the manner in which it has been built up and the character of the population, this principle could fairly be applied to the Overbrook section. This can be done by retaining the present commutation rates between points where the 20-trip tickets are now available, selling these tickets, however, on the basis of 50 rides instead of 20 rides per month. This will confine their use more certainly to the regular riders to whom it is reasonable to make this concession. While the sale of such tickets will be a departure from strict logic in the application of the mileage zone system of charging, it does not differ in this respect from the minimum fare and the workingmen's tickets in Marlborough, and could be justified upon similar grounds. The financial results will not, in our judgment, be unfavorable to the road.

If, therefore, a supplement to the tariff now before the Commission, embodying this change, is filed, the schedule so modified will be allowed to take effect upon short notice.

For the Commission,

ANDREW A. HIGHLANDS,

JULY 16, 1918.

[P. S. C. 2178]

Secretary.

FITCHBURG AND LEOMINSTER FARES.

Notice of Fitchburg and Leominster Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

CHARLES F. BAKER WESLEY W. SARGENT ROBERT N. WALLIS	}	for Fitchburg and Leominster Street Railway Company.
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LYMAN K. CLARK for Town of Ayer.

JAMES H. McMANN for City of Fitchburg and Towns of Lunenburg and Shirley.

JAMES H. P. DYER for City of Leominster.

The Fitchburg and Leominster Street Railway Company owns and operates about 41 miles of track in the two cities indicated by its name and in certain nearby towns, the population in its territory in 1915 being as follows: —

Ayer,	2,779
Fitchburg,	39,656
Harvard,	1,104
Leominster,	17,646
Lunenburg,	1,610
Shirley,	2,251

In the case of the town of Harvard the road merely runs through a corner of the town and furnishes no direct service to the community. The Lowell and Fitchburg street railway connects on the east at Ayer, the Northern Massachusetts at West Fitchburg, and the Worcester Consolidated on the south at Leominster. Between Leominster and Fitchburg, a distance of about four miles, the latter road also operates a parallel line.

The company was formed in 1892 by the consolidation of the Fitchburg Street Railway Company, organized in 1886, with the Leominster Street Railway Company, organized in 1891. In 1905 the Leominster, Shirley and Ayer Street Railway Company, organized two years previous, was merged on a share-for-share basis. The capitalization on June 30, 1918, was as follows: —

Capital stock,	\$450,000
Bonds,	400,000
Notes payable,	834,000
Total,	<u>\$1,684,000</u>

All of the stocks and bonds have been issued under public supervision, except one or two of the earlier issues prior to 1894. The integrity of these, however, was established by subsequent appraisals. In the case of an issue of \$100,000 of stock approved on June 20, 1900, the price at which it should be offered to stockholders was fixed at \$140 per share, and premiums amounting to \$40,432 were paid in. These were credited to profit and loss, where they were offset by reductions in the book value of certain items of the property. The large floating debt has been accumulated gradually over a period of years. An appraisal made for the Board of Railroad Commissioners in 1907 showed that the amount then outstanding, \$565,000, represented additions and improvements to the property, and an investigation recently made by the accounting and engineering departments of this Commission shows that this is also true of the balance since created. The departments report that the company has been conservative in the determination of betterments to the property and in its accounting generally. The total capitalization, including notes, amounts to about \$41,000 per mile of single track, a reasonable figure, having in mind the character of the construction and the fact that the company has invested about \$117,000 in park property. We have no hesitation in reaching the conclusion that the capitalization represents honest and prudent investment.

The company has paid dividends regularly from the beginning. Between 1887 and 1893 these varied from a minimum of 3 per cent to a maximum of 7 per cent. From 1894 to 1901, inclusive, the rate was 8 per cent. Since 1901 it has been 6 per cent. The average percentage of return in interest or dividends upon investment, including premiums as well as stock, bonds and notes, in recent years has been as follows: —

YEAR ENDED —	Rate of Return (Per Cent).
June 30, 1912,	5.13
June 30, 1913,	5.07
June 30, 1914,	5.35
June 30, 1915,	5.26
June 30, 1916,	5.09
December 31, 1916,	4.97
December 31, 1917,	5.05

The depreciation reserve on June 30, 1918, amounted to but \$6,000, but the company had a corporate surplus on the same date of \$39,607, and the returns show that in the past it has reduced property accounts \$79,147 by charges to profit and loss. It also appears, as above indicated, that the company has been conservative in its accounting, charging to operating expense various expenditures which might have been capitalized. The property until very recently has been well maintained and, while the provision for depreciation has not been adequate, it is a relatively larger provision than many street railways in the commonwealth have made.

The company now has a 5-cent unit of fare, the road being divided into zones of varying lengths. In two instances workingmen's tickets at a reduced rate are provided, good during certain morning and evening hours over portions of the railway where the regular cash fare is 10 cents. Between Lunenburg and Fitchburg these tickets are sold at the rate of $7\frac{1}{2}$ cents each, and between Shirley and Ayer at the rate of $8\frac{1}{2}$ cents each. The company now proposes to substitute for the 5-cent unit, a 7-cent unit of cash fare, selling tickets good at all hours of the day in lieu of cash at the rate of 8 for 50 cents, or $6\frac{1}{4}$ cents each. Incidentally, it proposes to abolish the workingmen's tickets above described. Tickets for school children are to be sold at the rate of 8 for 25 cents, or half the regular ticket rate rather than half the cash fare rate.

The record of operating revenues and operating expenses during the past five years has been as follows: —

YEAR ENDED —	Operating Revenue.	Increase.	Per Cent.
June 30, 1913,	\$320,011	—	—
June 30, 1914,	328,138	\$8,127	2.54
June 30, 1915,	312,879	15,259 *	4.65 *
June 30, 1916,	328,304	15,425	4.93
December 31, 1916,	346,573	18,269 †	5.57 †
December 31, 1917,	402,180	55,607	16.04
June 30, 1918,	466,702	54,522 †	13.55 †

* Decrease.

† Six months.

YEAR ENDED —	Operating Expense.	Increase.	Per Cent.
June 30, 1913,	\$208,764	—	—
June 30, 1914,	219,568	\$10,804	5.18
June 30, 1915,	206,660	12,908 *	5.88 *
June 30, 1916,	223,494	16,834	8.14
December 31, 1916,	232,741	9,247 †	4.14 †
December 31, 1917,	293,908	61,167	26.28
June 30, 1918,	336,086	42,178 †	14.35 †

* Decrease.

† Six months.

Summing up these tables, revenues have increased in the 5-year period, \$136,691, or 42.71 per cent, while expenses have advanced \$127,322 or 60.99 per cent. In other words, the increase in revenues has a little more than offset the increase in expenses in gross amount, but the latter has been at a relatively greater rate. Since the middle of 1917 the traffic has been greatly augmented by the establishment of Camp Devens on the line of this railway in the town of Ayer, but even prior to this the company prospered better under a 5-cent fare than certain other companies in the commonwealth under an increased rate.

A higher fare than 5 cents is now sought because of a turn of the tide in revenue, and because of the prospect of substantially increased expenses. The following is a comparative statement of the passenger revenue in the months of July, August and September of this year, with the similar revenue in the corresponding months of 1917: —

	1918.	1917.	Per Cent.
July,	\$44,976 13	\$42,020 19	4.9 increase.
August,	45,694 34	43,452 17	5.2 increase.
September,	35,629 41	36,562 59	2.6 decrease.
	\$126,299 88	\$122,034 95	2.5 increase.

During the same three months the operating expense was \$87,-902.86 this year as compared with \$79,177.09 last year, an increase of about 11 per cent. The company also submitted the following estimate of additional revenue needs during the coming year: —

Additional interest,	\$6,000
Additional taxes,	2,200
Additional wages,	53,006
Balance of operating expense 10 per cent increase,	15,940
	\$77,146

This estimate is, of course, speculative, but it seems on the whole to be based on reasonable premises. So far as the largest item is concerned, it is clear that the wages now paid by the company are substantially below the level which is now rapidly becoming established in Massachusetts, and the estimate of probable increase above given is not inconsistent with the advances recently made by other companies.

The company also submitted estimates of the increase in revenue which it may obtain from the proposed new fares. These ranged from a maximum of \$82,674 to a minimum of \$53,457, the variations being dependent upon differing estimates of the probable percentage use of tickets, and of the probable decrease in traffic resulting from the higher fares. Experience has shown that no accurate forecasts can be made of gain from increased rates, but in most street railway cases the actual results have been decidedly less favorable than the prior estimates. Assuming that the gain would be \$76,614, or nearly the maximum estimated, and assuming also the increases in operating expense and other charges above set forth, the company submitted a computation showing that it would earn during the coming year \$37,539 over and above fixed charges, or about \$10,000 more than enough to pay dividends of 6 per cent upon its stock.

In general, the remonstrants were not disposed to challenge the company's need for additional revenue, but the predominant feeling seemed to be that the increased unit rate ought not to exceed 6 cents. Much may be said in favor of this position, but after careful consideration the Commission is of the opinion that the schedule of fares submitted by the company ought to be approved, subject to the exceptions noted below. We have reached this conclusion because of the following considerations:—

1. Complaint was made by the remonstrants that the service furnished by the company has recently deteriorated and this was admitted by its representatives. It was also admitted that maintenance has fallen below proper standards during the past year. This means that the company has, in effect, been starving both the property and the service in order to meet the rapidly advancing cost of operation. It is quite clear, therefore, that even if the new schedule should produce more revenue than is now anticipated, there is no danger that net earnings will be unduly large if proper attention is paid to facilities, maintenance, and the factor of depreciation.

2. The ending of the war probably means that Camp Devens will be closed in the not remote future. If this proves to be the case, the company will lose the traffic from this source, which has added so materially to its revenue in the past 12 months.

3. The proposed system of fares has little disadvantage over a 6-cent cash fare, so far as regular patrons of the road are concerned, for the strip tickets, obtainable by an investment of but 50 cents, will make it possible to secure a 6½-cent rate very readily. The chances are that the 7-cent cash fare will be paid chiefly by strangers or other occasional riders, and it is not unfair that these should pay a higher rate.

4. By encouraging the use of tickets the schedule proposed will facilitate the collection of fares on the cars, to the advantage of both the company

and its patrons. The collection of any cash fare involving pennies is difficult. It is quite as easy, in all probability, to sell a strip of 8 tickets for a half dollar as to collect one 7-cent fare. Slow collection of fares delays operation and also usually involves loss of revenue.

In view of doubt, however, as to the course of prices and general conditions, now that the war is over, it is desirable that the new schedule should be regarded as tentative and experimental, and that it should in effect be limited in its operation to a term of six months, when the matter may be reviewed again in the light of the experience gained and the conditions then prevailing. It is also desirable, in our judgment, that the schedule should be modified with respect to the proposed elimination of workingmen's tickets. The general theory upon which it is based is that the existing system of fare zones, which has prevailed for many years without particular complaint, should be left unchanged, and that there should be merely a horizontal increase in all charges. If it were proposed to adopt a uniform mileage zone system or to deal generally with the question of the length of ride now obtainable on various portions of the railway for the unit fare, and the earnings of the various lines, it would be logical at the same time to give consideration to this matter of workingmen's tickets; but under the theory followed it is more consistent to allow these tickets, which are a part of the present rate structure, to remain in effect, subjecting them, however, to the uniform percentage increase in price. If these tickets are, therefore, retained and sold at the rate of 10 for \$1, instead of the present rates, this result will substantially be accomplished.

At the suggestion of the Commission the company has filed a schedule of rates, cancelling the schedule now under suspension, but similar in all respects to it except that the workingmen's tickets are continued upon the basis recommended above. An order is entered below permitting this new schedule to become effective on December 5, 1918. This order is entered, however, upon the distinct understanding that the whole question may, upon the complaint of any interested party, be opened for review at the end of a six months' trial period, with the burden of proof remaining upon the company to show at that time that the new fares should be permitted to remain in force. The Commission also feels that it is incumbent upon the company, if the increased rates prove successful in producing additional revenue, to take suitable steps to improve its service. The Inspection Department of the Commission has been given instructions to follow up this question of service.

ORDER.

It appearing that on September 19, 1918, the Fitchburg and Leominster Street Railway Company filed with the Commission a local passenger tariff numbered "M. P. S. C. No. 1, Supplement No. 2, cancelling Supplement No. 1," and that said tariff has been suspended by order of the Commission until December 1, 1918, and

It appearing that on November 29, 1918, said company filed with the Commission a local passenger tariff numbered "M. P. S. C. No. 1, Supplement No. 3, cancelling Supplement No. 2," to become effective, with the permission of the Commission, on December 5, 1918, and

It further appearing that a full investigation of the matters and things involved has been had and that the Commission under date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof,

It is

Ordered, That the Fitchburg and Leominster Street Railway Company be hereby notified that its local passenger tariff "M. P. S. C. No. 1, Supplement No. 3, cancelling Supplement No. 2," may be made effective, under this authority and for the reasons stated in the report which is made a part hereof, on December 5, 1918.

It is

Further ordered, That the local passenger tariff of said company now under suspension and numbered "M. P. S. C. No. 1, Supplement No. 2, cancelling Supplement No. 1," be further suspended until said tariff is cancelled by the taking effect, as above provided, of the local passenger tariff of said company numbered "M. P. S. C. No. 1, Supplement No. 3, cancelling Supplement No. 2."

It is

Further ordered, That a copy of this order be filed at the office of the Commission and that a copy hereof be forthwith served upon the Fitchburg and Leominster Street Railway Company.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

NOVEMBER 30, 1918. [P. S. C. 2281]

HOLYOKE FARE CASE.

Notice of the Holyoke Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

WILLIAM H. BROOKS	}	for Holyoke Street Railway Company.
L. D. PELLISSIER		
DANIEL J. COAKLEY	}	for City of Chicopee.
HENRY CLOUTIER		
MICHAEL B. HOULIHAN		
WILLIAM CRAIG		
FRANK C. FLINT		
WILLIAM F. RATHBURN	}	for Fairview Municipal Club.
E. M. BUCKLEY		
JOHN D. RYAN	}	for City of Holyoke.
THOMAS J. LYNCH		
PATRICK J. GARVEY		
WILLIAM M. HART		
JOSEPH F. GRIFFIN		
EMIL W. KROEPFEL		
DAVID E. MATTHEWS		
FRANCIS MCSHERRY		
Mrs. EMIL W. KROEPFEL for Holyoke Ward 3 Improvement Association.		
GEORGE H. LANE	}	for Holyoke Central Labor Union.
JOHN CRONAN		
EDWARD S. ALDEN		
WILLIAM E. CORRIDEN for Town of South Hadley.		
NATHAN P. AVERY for Himself.		

On December 31, 1917, after careful investigation, the Commission authorized the Holyoke Street Railway Company to increase its rates of fare. The proceedings were based on a petition asking the Commission, if it should find the company fairly entitled to more revenue, to determine the particular method by which it should be obtained. Three plans were submitted. Two were similar, involving the application of the so-called "zone system." In other words, they preserved the 5-cent rate

within the thickly settled central district of Holyoke, but reduced the area which it covered, thus creating an outer zone to and from which a higher fare would be charged. The third plan involved merely the substitution of a 6-cent fare for the existing 5-cent rate in the Holyoke territory, without the creation of any new zones. All three plans, however, provided for a 7-cent unit on the long country line from South Hadley to Amherst and Sunderland, where the unit was then 6 cents.

At the hearings the company expressed a preference for a "zone system" of charging, but did not urge the preference strongly. On the other hand, the communities represented were opposed to such a system and preferred a mere horizontal increase in rate. The conclusion finally reached by the Commission was that the "zone system" ought to be given a fair trial, upon the ground that Holyoke is a city where there is much short-haul riding, that a higher fare than 5 cents within the central district would discourage such traffic and encourage jitney competition, and that it was this central district which had furnished the profits of the company in the past. An inner and an outer zone were therefore created, having the following limits upon the through lines, measured from City Hall:—

Inner Zone.

	Miles.
Mountain Park,	3.71
Cherry Street and Jarvis Avenue,	2.97
Newton Smith's,	2.43
Prew Avenue,	1.99
Chicopee and Meadow streets,	1.92
Chicopee and Meadow streets,	1.92
South Hadley town line,	1.90
<hr/>	
Average,	2.41

Outer Zone.

Mount Tom Junction,	7.48
Westfield town line,	6.70
South Hadley Center,	4.47
West Springfield town line,	3.81
Chicopee Street,	5.00
Chicopee Falls,	4.59
Fairview,	3.37
<hr/>	
Average,	5.06

Briefly stated, the fares established were as follows: —

1. Five cents for any ride within the limits of one zone.
2. Ten cents *cash* or $6\frac{1}{2}$ cents by *tickets* for any ride from a point in one zone to a point in the other; tickets to be sold at the rate of 6 for 40 cents.
3. Special tickets sold at the rate of $7\frac{1}{2}$ cents each, good for local rides between any point in the inner zone and Smith's Ferry (5.62 miles from City Hall) or intermediate points on the Northampton line.
4. Workingmen's tickets sold at the rate of $7\frac{1}{2}$ cents each, good during certain morning and evening hours between any point in the inner zone and the city boundary (6.7 miles from City Hall) or immediate points on the Westfield line.
5. Lap-overs, so that passengers might ride between South Hadley Falls and South Hadley Center, and between Willimansett and other parts of Chicopee for a 5-cent fare.
6. Special tickets sold at the rate of 10 cents each, good between points on the Fairview line in the city of Chicopee and points on the other Chicopee lines.
7. Free transfers at City Hall, available to passengers using tickets as well as to those paying cash fares.
8. A 7-cent unit of fare on the Amherst and Sunderland line.

Upon the basis of the company's figures, it was estimated that this new scheme of fares might yield \$110,000 additional revenue yearly. It was stated, however, that the plan was to be regarded as tentative and experimental, and subject to review at the end of a one-year period.

The new fares became effective on February 17, 1918, and the record of passenger receipts has since been as follows: —

MONTH.	1917.	1918.	Increase.	Per Cent.
February,	\$48,589 87	\$46,260 97	\$2,328 90*	4.79*
March,	55,455 92	56,042 80	586 88	1.06
April,	53,134 05	53,302 60	168 55	.31
May,	55,755 89	59,867 76	4,111 87	7.37
June,	62,964 52	64,720 73	1,756 21	2.79
July,	73,731 93	71,590 15	2,141 78*	2.90*
August,	72,802 11	74,391 60	1,589 49	2.18
September,	61,727 82	62,708 95	981 13	1.59
October,	55,330 94	48,195 18	7,135 76*	12.90*
	\$539,493 05	\$537,080 74	\$2,412 31*	.45*

* Decrease.

It will be seen that in the 9 months there was an actual decrease in revenue. The month of October, when the influenza epidemic

was at its height, was responsible for most of this, but even in the other 8 months the increase was but \$4,723.45, or not quite one per cent.

The company now proposes to secure the additional revenue which it needs, even more badly than it did a year ago, by a further development of the "zone system." Under this new plan the central area and the adjacent "outer zone" would both be somewhat contracted, as the following table of proposed limits on the through lines will show by comparison with the one given above:—

<i>Inner Zone.</i>		Miles.
Lincoln and Northampton streets,	.	1.63
Cherry Street and Hillside Avenue,	.	2.10
Newton Smith's,	.	2.43
Prew Avenue,	.	1.99
Chicopee and Meadow streets,	.	1.92
Chicopee and Meadow streets,	.	1.92
South Hadley town line,	.	1.90
Average,		1.98
<i>Outer Zone.</i>		
Mountain Park,	.	3.71
Bray's Turnout,	.	4.80
South Hadley Center,	.	4.47
West Springfield town line,	.	3.81
Chicopee Street,	.	5.00
Chicopee Falls,	.	4.59
Fairview,	.	3.37
Average,		4.11

Beyond Mountain Park on the Northampton line there would be two other zones, one 1.91 miles and the other 1.86 miles in length. Beyond Bray's Turnout on the Westfield line there would be one other zone, 1.9 miles in length. Beyond South Hadley Center, the Amherst and Sunderland line would be divided into 9 zones, ranging from 1.8 miles to 2.6 miles in length. The fares proposed, briefly are as follows:—

1. A 5-cent fare for a ride within any one zone, excepting the central area where this fare would carry only to and from City Hall.

2. A cash fare for a ride covering all or parts of two or more zones, equal to 5 cents multiplied by the number of zones, the central area being regarded as two zones with City Hall as the dividing point.

3. Tickets sold at the rate of 12 for \$1 ($8\frac{1}{2}$ cents each) good for any ride between City Hall and any point in an adjacent outer zone, or for any ride in the central area passing beyond City Hall.

4. All other tickets, except the half-fare tickets for school children, and all lap-overs to be abolished.

The general intent of the new schedule is to base fares on distance traveled, making the rate about $2\frac{1}{2}$ cents per mile when cash is paid, and about 2 cents per mile where tickets are used.

The company estimates that it will end the year with a net profit, after meeting operating expenses, taxes, interest and other fixed charges, of \$14,110, as compared with \$40,719 in 1917. This estimate allows nothing for depreciation reserve, except the small amount of \$7,202 on equipment. It is based on actual figures for 9 months, with the last 3 months of the year estimated. Wages and prices have gone up during the year, and the company has avoided a worse financial showing only by a reduction in service. During the first 9 months of 1918 the revenue car miles operated were 1,454,625, as compared with 1,733,423 in 1917, a decrease of about 16.1 per cent. A material reduction in the number of stopping places has also tended to reduce expense. The management states, however, that rolling stock is in better shape than for some years previous, and the track has been maintained in fair condition.

Additional revenue requirements are given as \$235,743. This is based on a 6 per cent return on the book value of all assets, allowing \$25,000 for increase in wages to be paid in 1919 over 1918 on the basis of present wage scales, and \$94,753 additional provision for depreciation. The return estimated in the manner indicated, however, would permit the payment of dividends of nearly $9\frac{1}{2}$ per cent on stock, after meeting interest on bonds and notes. In its decision last year the Commission, after careful review of the company's history, reached the conclusion that "while the stockholders have already been called upon for a sacrifice and ought, in justice, to be able to look forward to a day in the not remote future when dividends will be restored to the normal rate, they ought not to expect for the present a rate higher at the maximum than 6 per cent." It also appears that the additional provision for depreciation, using the company's own basis of estimate, should be \$82,635 rather than \$94,753, and the method followed in the determination is subject, in certain respects, to criticism. In this connection, furthermore, the Commission is faced by the fact that the last General Court

provided as follows, in the so-called "Service-at-Cost" act (General Acts 1918, c. 280, § 13): —

During the period of the present war and for one year thereafter, the commission is authorized, in its discretion, to direct any company to set aside for depreciation a smaller amount than would be considered adequate in normal times.

This provision was amplified in the so-called "Bay State" act in the following manner (Special Acts 1918, c. 188, § 17): —

. . . and the trustees are authorized subject to the approval of the public service commission if in their opinion it is desirable, for the purpose of preventing undue increases in fares during the period of abnormal prices caused by the present war, to postpone making amortization charges and charges against earnings to cover depreciation until such period not exceeding one year after the termination of the present war as they may fix.

In the face of this declaration of legislative policy, it seems clear that, if the Holyoke company were able to set aside \$50,000 additional for depreciation, a sum much larger than it ever has reserved in the past, it would be more than meeting reasonable requirements under present abnormal conditions. Adjusting its estimate, then, to provide but 6 per cent dividends upon stock, and additional depreciation of but \$50,000, the additional revenue needed for the coming year is reduced from \$235,743 to \$145,393, and even this latter sum, in the light of the legislative policy above indicated, is generous. It is probable, however, that requirements may be increased by a further advance in wages, for differences between the company and its employees on this point have been made the subject of arbitration.

The company estimates that the proposed new schedule will produce \$167,292 additional revenue yearly, but no great confidence was shown in this estimate, and it is admitted that sufficient allowance may not have been made for traffic loss. At the hearings the plan met with very general opposition from patrons, and particular disapproval was expressed in regard to the provision for an extra charge at City Hall. Broadly speaking, the factory district is on one side of City Hall and the residential district on the other. Because of this fact, the charge under the company's plan for even comparatively short rides to and from work would often be 10 cents cash or $8\frac{1}{2}$ cents with tickets. This practically amounts to charging from $3\frac{1}{2}$ cents to 5 cents for transfers which have hitherto been free. While the

need for additional revenue was admitted, there seemed to be a very general preference for a unit fare higher than 5 cents, covering a larger district than the present inner zone, without any transfer or other charge at City Hall.

The present "zone system" in Holyoke and vicinity was approved by the Commission, for the reasons which have already been stated, as an experiment which deserved a trial, but it does not seem that the results have been more satisfactory than results in cases where a horizontal increase in fares has been authorized. From one point of view, such a system is undoubtedly open to serious objection, and that is the fact that it unsettles conditions to which community life has become adjusted. People who have established homes at some distance from the community center upon the basis of a uniform fare often find themselves put to grave disadvantage, in comparison with those more centrally located, by the adoption of zone charges. If it were not for the discouragement to the short-haul riding which it is so desirable for a street railway company to have, there is no doubt that a horizontal increase in fare would be preferable.

In the present instance, it is exceedingly difficult to retain a minimum fare of 5 cents without creating conditions to which objection may justly be made. The complaint in regard to the extra charge at City Hall seems well founded, and we doubt very much whether it would really yield the revenue which the company was at first disposed to claim. It is also true that a system of fares which is theoretically open to objection may, in actual practice, produce good results if it is sustained by public opinion, for nothing is more valuable to a street railway company than the confidence and co-operation of the people whom it serves. The management of the Holyoke company appreciates this fact, and for this reason it expressed a willingness, before the hearings were over, to sacrifice its theories, and endorsed an alternative plan of increased fares which provided for a minimum cash rate as high as 8 cents.

In view of this disposition upon the part of the company and in view of the attitude of its patrons, so far as we are able to gauge their views, it has seemed to the Commission just and reasonable to approve the adoption of a new scheme of fares, retaining in part the "zone system," but approaching more nearly to the original uniform fare than the system now in force, and meeting, in substantial measure at least, the criticisms made

to the schedule now under suspension and to the alternative plan which the company endorsed. The scheme which is proposed is this:—

1. Enlarge the proposed "inner zone," so that it will extend on the Northampton line to some convenient point in the "Highlands" about a mile beyond Lincoln and Northampton streets; on the Westfield line, as far as the junction of Cherry street and Jarvis avenue; on the West Springfield line, to some convenient point in the settlement known as "Ingleside;" on the Chicopee street line, to some convenient point about a mile beyond the junction of Chicopee and Meadow streets; on the Chicopee Falls line, to some convenient point in the settlement known as "Aldenville;" on the Fairview line, to the end of the line; and on the South Hadley Center line, to the point known as "Newton-Smith's."

2. Enlarge the proposed "outer zone," so that it will extend on the Northampton line to Smith's Ferry; on the Westfield line, to Bray's turnout; on the West Springfield line, to the point of connection with the Springfield street railway; on the Chicopee street and the Chicopee Falls lines to the end of the line in each case; and on the South Hadley line, to the present limit at South Hadley Center.

3. Provide for one additional zone beyond the so-called "outer zone," on both the Northampton and the Westfield lines.

4. Provide for the same system of zones on the line from South Hadley Center to Amherst and Sunderland as proposed by the company in the schedule under suspension.

5. Provide for a unit fare of 7 cents for the "inner zone" with free transfer privileges, and a unit fare of 5 cents for all other zones.

6. Provide for a 10-cent fare for any ride between the "inner" and the "outer" zone.

7. Provision should also be made, by lap-overs or tickets, so that it will be possible to ride between Chicopee and Meadow streets in Willimansett and the limits of the Chicopee street and Chicopee Falls lines and between South Hadley Center and South Hadley Falls for a single fare.

This plan will make the zones reasonably symmetrical, the radius of the "inner zone" averaging around $2\frac{3}{4}$ miles. In comparison with the company's plan, the fares to City Hall from outlying points like Chicopee and South Hadley Center will be increased from $8\frac{1}{2}$ cents to 10 cents, but this will be offset by the fact that the same 10 cents will carry a passenger to any point in the "inner zone" beyond City Hall, whereas the charge under the company's plan would be $13\frac{1}{2}$ cents. The minimum charge in the "inner zone" will be raised from 5 cents to 7 cents, but the maximum will be reduced from $8\frac{1}{2}$ cents to 7 cents, and certain small settlements like Fairview, Ingleside and Aldenville,

which are comparatively near the city center and have always felt harshly treated under the present schedule, will be brought within the limits of the 7-cent fare. On the Northampton line there will be one less zone than proposed by the company.

Experience has shown that prior estimates are seldom reliable, but, so far as the Commission can determine results in advance, the new fares should produce the additional revenue to which the company is entitled. We are free to say that our plan is no more perfect in theory than most of the others which have been suggested, and it is not difficult to point out inconsistencies; but it represents the best adjustment which we have been able to make to meet the revenue requirements of the company as well as the views and needs of the community.

It will be noted that the Commission has not attempted to fix with precision the exact limits of the "inner zone," but has left the company some slight leeway in the selection of convenient points. In carrying out the plan, also, certain tickets may be desirable, but this is within the company's discretion, it being understood that all such details will receive consideration by the Commission before the schedule is finally approved. We also feel that the plan should not be regarded in any way as permanent, but should be subject to reconsideration after a fair trial. The country is now in a transition period. The war is over, the extraordinary demands for labor, fuel and materials, which have disturbed economic conditions are gradually ceasing, and the return of many of the soldiers to New England is promised in the not remote future. What the course of prices and traffic may be no one can confidently predict. In the event of any substantial change of conditions, the whole question of fares should be open to reconsideration.

In conclusion, the Commission desires to impress as strongly as it can upon the city of Holyoke and the other communities involved the fact that the street railway situation in Massachusetts is critical generally, and that this is true of the company by which they are served. The Holyoke Street Railway Company has never, indeed, been more in need of hearty public co-operation than it is at the present time. Encouragement of jitney transportation is short-sighted in the extreme, and anything that communities can do by proper traffic regulations to facilitate the movement of cars, or any steps which they may take to limit unreasonable claims for injuries or damages are in their own interest quite as much as in the company's interest.

An order is entered below cancelling the schedule now under suspension. Upon presentation of a new schedule in accordance with the plan above outlined, it will, after approval by the Commission of form and detail, be permitted to take effect upon short notice.

ORDER.

It appearing that by successive orders of the Commission dated October 26, 1918, November 29, 1918, and December 14, 1918, respectively, the rates and charges described in tariff M. P. S. C. No. 3 of the Holyoke Street Railway Company have been suspended until December 23, 1918, unless otherwise ordered;

And it further appearing that a full investigation of the matters and things involved in said tariff has been had, and that the Commission on the date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, —

It is

Ordered, That the Holyoke Street Railway Company be and it is hereby notified and required to cancel the rates and charges stated in the tariff specified in said orders of suspension.

And it is

Further ordered, That a copy of this order be filed with said tariff at the office of the Commission and that a copy hereof be forthwith served upon the Holyoke Street Railway Company.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

DECEMBER 21, 1918. [P. S. C. 2292]

MASSACHUSETTS NORTHEASTERN RATES.

Notice of the Massachusetts Northeastern Street Railway Company relative to proposed changes in rates of fare upon its railway.

DAVID A. BELDEN
FREDERICK E. WEBSTER
GEORGE R. FRENCH

} for Massachusetts Northeastern Street
Railway Company.

ALBERT P. WADLEIGH for Towns of Amesbury, Merrimac and
Salisbury.

ESSEX S. ABBOTT
ARTHUR L. NASON
CHARLES H. MORRILL

} for City of Haverhill.

DANIEL J. MURPHY for City of Lawrence.

WALTER P. HOPKINSON
CARL C. EMERY

} for City of Newburyport.

HERBERT E. HARRIMAN for Plum Island Improvement Association.

On April 15, 1918, the Massachusetts Northeastern Street Railway Company notified the Commission of a proposed change in passenger rates to become effective May 15, 1918. Pending investigation, the operation of this new schedule was suspended by the Commission until July 1, 1918, and public hearings were held on May 8 and May 9, 1918.

The fares now charged by the company were established in compliance with the order of the Commission in the Massachusetts Northeastern rate case decided October 14, 1916 (4 P. S. C. Rep., p. 122). The present unit of cash fare upon all lines is 6 cents, but a ticket rate of 5 cents is available for a distance of approximately $3\frac{1}{2}$ miles from the centers of Haverhill and Lawrence, and certain commutation and workingmen's tickets are sold at reduced rates. The present fare zones vary greatly in length, the maximum being 6.45 miles, the minimum 1.35 miles, and the average approximately 4 miles. Including transfer privileges, a maximum ride of 7.65 miles and an average ride of approximately $5\frac{1}{4}$ miles are available for a single fare. Upon certain lines lap-over privileges have also been granted, which enable local passengers to ride some distance beyond the regular fare collection point without additional charge.

For this system of irregular overlapping zones, the company proposes to substitute a new fare scheme which embodies certain features of what is commonly known as the "copper zone" system, and retains certain features of the fare system which has heretofore been commonly employed upon the lines of New England street railway companies. The company proposes a re-division of its system into fare sections varying according to the density of population and other local conditions from 1.7 to 3.8 miles in length, and a subdivision of each fare section into two fare zones of approximately equal length. The average length of the proposed fare sections is about $2\frac{1}{2}$ miles, the average length of the fare zones or half sections about $1\frac{1}{4}$ miles, and the average fare per mile approximately 2 cents. The cash fare is to be 5 cents for each fare section, but passengers may ride from any point in the first fare section to any point in the first zone of the adjoining fare section, or in other words over any three consecutive fare zones at a rate of $7\frac{1}{2}$ cents by the use of tickets which are sold in strips of ten for 75 cents. This arrangement amounts in effect to a reduction in the length of existing zones from an average of 4 miles to an average of $2\frac{1}{2}$ miles, a reduction of the unit of fare from 6 cents to 5 cents, and a graduated increase, instead of the payment of a full additional fare, for rides beyond the first fare section. The plan proposed involves also the abolition of overlapping zones, the discontinuance of certain free transfer privileges and a reduction of the transfer area where such privileges are retained. The tariff provides also for the sale of 20-ride workingmen's tickets, good during certain hours between designated points at 75 per cent of the regular cash fare, and for certain round trip summer excursion rates to Hampton Beach and Canobie Lake park.

An exception to the general fare scheme just described is made on four short lines having an aggregate mileage of 7.6 miles, on Plum Island and along Salisbury, Seabrook and Hampton beaches. On these lines, which serve beach resorts and are operated during the summer months only, it is proposed to retain the present fare zones and the present 6-cent unit of fare.

The company has made a careful estimate of the revenue results from the plan proposed, applying the new plan and rates to the 1917 travel, with certain allowances for a loss of travel on suburban and country lines, due to the higher rates, and for an increase in short-haul travel, due to the reduction in the unit of fare. The result shows a net gain of approximately \$72,500 or

about 9 per cent. While estimates of this kind must be more or less speculative, we are of the opinion, after an examination of the data upon which this estimate is based, that the actual increase in revenue under the new fare plan would not be likely to exceed, and might indeed prove to be somewhat less than the amount named by the company.

In proceeding to determine the company's need of additional revenue of the amount indicated, and its justification for seeking authority to raise its rates, the findings made by the Commission in its report on the Massachusetts Northeastern rate case of 1916 may be taken as the starting point for the present inquiry. In that case, after a review of the financial history of the company, based upon the evidence presented in that proceeding, the Commission found that the company was justly entitled to secure from the operation of its road an income sufficient, after caring for operating expenses, depreciation and taxes, to cover the interest on all funded and unfunded debt, with the exception of an item of approximately \$65,000 representing the cost of an abandoned power station at Newburyport, and to pay a return of at least 6 per cent upon the full par value of its outstanding stock. The Commission also found that the management of the company had been efficient, that the property had been well maintained and that the failure to provide for accrued depreciation had not been due to the payment of excessive dividends or other forms of mismanagement.

The findings then made were based upon the comparative balance sheet and the income statement of the company for the year ended June 30, 1916. At that time the company had outstanding stock to the amount of \$2,165,000, bonds to the amount of \$1,000,000, and floating debt to the amount of \$411,000. On December 12, 1917, the Commission authorized an issue of additional bonds to the amount of \$100,000, the proceeds of bonds to the amount of \$36,000 to be applied toward the payment of floating indebtedness then outstanding, and the proceeds of the remaining bonds to be applied to the payment of the cost of contemplated additions and improvements to the property (P. S. C. 1497). For other additions and improvements to the property since December 12, 1917, the company has expended to December 31, 1917, the sum of \$21,953.28.

As the result of these transactions the funded debt of the company was increased to \$1,100,000, and the floating debt was reduced by \$14,046.28. The floating debt was further reduced by

writing off the cost of the abandoned power plant in Newburyport, which was referred to in the former rate case, through the cancellation of notes to the amount of \$64,000 held by the holding company. With these adjustments, the floating debt now outstanding should amount to \$332,953.28. The actual amount shown on the company's books is \$335,000, but the variation is not material. It would appear, therefore, that the interest on the company's present funded and unfunded debt is a legitimate charge against operation, and that the company is entitled to an annual return of at least 6 per cent on its capital stock, which would amount to \$129,900.

The income statement of the company for the year ended June 30, 1916, and subsequent fiscal years, as shown by its annual reports on file with the Commission, is as follows: —

	June 30, 1916.	December 31, 1916.	December 31, 1917.
Passenger revenue,	\$688,418 67	\$737,170 45	\$801,141 91
Other income,	32,467 35	41,855 00	49,680 12
Total income,	\$720,886 02	\$779,025 45	\$850,822 03
<i>Operating Expenses.</i>			
Way and structures,	\$97,551 05	\$92,373 27	\$99,169 62
Equipment,	58,093 88	62,508 91	76,077 32
Power,	168,512 34	173,335 95	223,593 82
Conducting transportation,	177,103 53	186,479 74	208,280 98
Traffic,	8,161 17	4,758 75	3,634 22
General and miscellaneous,	73,118 56	77,386 97	94,081 10
Total operating expenses,	\$582,540 53	\$596,843 59	\$704,837 06
Gross income,	\$138,345 49	\$182,181 86	\$145,984 97
<i>Deductions.</i>			
Taxes,	\$25,576 66	\$28,102 33	\$31,715 30
Interest, funded debt,	50,000 00	50,000 00	54,791 67
Interest, unfunded debt,	23,554 95	21,321 19	17,361 37
Amortization of discount,	—	—	400 00
Total deductions,	\$99,131 61	\$99,423 52	\$104,268 34
Net income,	\$39,213 88	\$82,758 34	\$41,716 63
Per cent return on total outstanding capital stock (\$2,165,000).	1.81	3.82	1.52
Dividend appropriations,	—	\$29,925 00 ¹	—
Surplus for year,	\$39,213 88	\$52,833 34	\$41,716 63

¹ 4½ per cent on \$665,000 preferred stock.

As appears from the above statement, the net income of the company for the year ended December 31, 1917, amounted to

\$41,716.63, which was insufficient by \$88,183.37 to pay a proper return upon the investment. While the Commission has not deemed it necessary, upon the facts in the case, to determine precisely what provision the company should make for depreciation, the amount which it has laid aside annually for that purpose is clearly inadequate. The apparent net income for 1917 would, therefore, be substantially reduced if a proper charge for depreciation had been included in operating expense.

Moreover, the income account of the company for the five months ended May 31, 1918, as compared with the same period of 1917, shows a falling off in net income to the amount of about \$30,000. Upon that basis, the results of operation for the year 1918, after the payment of operating and fixed charges, would be likely to show a deficit even if no additional allowance were made for depreciation, and if there should be no increase in the cost of labor, fuel, material and supplies.

It appears, however, that increases in wages, effective May 1, 1918, and July 1, 1918, under existing agreements, will add approximately \$23,000 to the company's pay-roll for the current year. The employees have also recently presented demands for an additional wage increase of 5 cents per hour. As the scale of wages proposed would be less than that now prevailing upon the lines of several other street railway companies in the state, it is likely that the management will be obliged to make a substantial increase in the wages now paid to its employees, and that the annual labor cost after July 1, 1918, will be in the neighborhood of \$60,000 more than for the calendar year of 1917.

No criticism was offered of the company's expenditures except in the matter of power. For the year ended December 31, 1917, the cost of power was \$223,593.82, an increase of approximately \$55,000 over the amount paid in the year ended June 30, 1916. The company purchases its power under a contract with the Rockingham County Light and Power Company, a New Hampshire corporation supplying light and power in Portsmouth and furnishing also the electricity for the operation of the Massachusetts Northeastern and the Dover, Somersworth and Rochester railways. As the New Hampshire Electric Railways control this power company, as well as the Massachusetts Northeastern railway company, the Commission, in the former rate proceeding, made a careful examination of all dealings between the two companies, and the essential facts are set forth in the Commission's report in that case. As a result of the investigation then made,

the Commission reached the conclusion that the power cost at that time, in view of all the conditions, was not unduly high.

At the request of the Commission, its chief accountant has made a further careful investigation of all financial relations between the two companies, more especially in connection with the sale and purchase of power, and has submitted, under date of June 26, 1918, a detailed report thereof, which is filed with the papers in the case. It appears that the increase in the cost of power since 1916 is due to the fact that the price named in the contract, which is 1.4 cents per kilowatt hour, measured as alternating current, was based upon the price of coal not exceeding on an average \$4 per ton delivered alongside the wharf at Portsmouth. The contract, however, provided that if the cost of coal should exceed that figure, the railway company should pay the excess cost on all coal actually burned in generating electricity for the railway company. The high cost of power to the Massachusetts Northeastern company in 1917 is explained by this provision in the contract, and the high prices for coal then prevailing, the average price for the entire year being \$7.51, as compared with a cost of \$3.65 for the year ended June 30, 1916. A summary of the cost of power, per kilowatt hour, including interest, taxes, insurance and depreciation, of the Massachusetts Northeastern and six other street railway companies is as follows: —

	Cents.
Worcester Consolidated,	2.01
Holyoke,	2.01
Boston and Worcester,	2.04
Middlesex and Boston,	2.17
Springfield,	2.19
Milford and Uxbridge,	2.45
Massachusetts Northeastern,	2.47

With the exception of the Holyoke company all the companies above named purchase their power in whole or part instead of manufacturing it. Most of the power contracts were made at a time when the present abnormally high price of coal was not foreseen, and none of them, except that of the Milford and Uxbridge company, provides for an increase in the cost of power in the event of an increase in the price of coal. It will be observed that the power cost is higher for the Massachusetts Northeastern than for any of the other companies named, the difference, except in the case of the Milford and Uxbridge, being substantial. This is, however, apparently explained by the absence of coal clauses in

most of the other contracts, by the fact that the Massachusetts Northeastern company is spread out over a comparatively large area with little or no double track and few radiating lines, thus multiplying the number of sub-stations, and increasing the sub-station expense, by the heavy grades on many of its lines, and by the very low load factor, as compared with the other companies, for about eight months in the year.

In order to obtain a further check upon the power cost, a careful estimate was made of the probable cost to the company of generating its own power. This estimate showed a total cost of \$269,060.15, or \$45,466.33 more than the actual cost of power for the year 1917. In view of all the circumstances there does not appear to be sufficient ground for holding that the cost of power under the existing contract is excessive.

In view of the general commendation of the present management by patrons of the company at the recent hearings, we see no occasion to change the favorable opinion of the company's operating methods and policies which we expressed in the former rate case, or to alter the conclusion then reached "that the additional net income needed cannot be secured through more efficient management and operation, and that the company may properly increase its fares" (4 P. S. C. Rep., p. 135). Upon the basis of the company's financial showing for the year 1917, and the first five months of 1918, and in view of the inadequate provision heretofore made for depreciation and of the large increase in wages which is in immediate prospect, the company might reasonably justify its need for additional revenue of at least \$150,000 a year, or more than twice the amount which it is likely to realize from its proposed change of fares.

In regard to the exact fare plan to be adopted, the company should be allowed a reasonable degree of discretion, unless the plan proposed is likely to yield an excessive increase of revenue, to prove discriminatory as between different communities or different groups of car riders, or to impose burdens upon the public disproportionate to the revenue results obtained. As the company is now charging fares of 6 cents, it is confronted, broadly speaking, with the problem of increasing its fares to 7 cents or over, or of reducing the length of ride available for the unit of fare. As the experiment of raising fares above 6 cents has not proved a conspicuous success in the experience of other companies, the Massachusetts Northeastern company chose the other alternative of reducing the length of its fare zones with a decrease instead of an increase in the unit of cash fare.

As we have already stated, the company proposes to establish 5-cent fare sections of an average length of $2\frac{1}{2}$ miles, and to subdivide these into two fare zones averaging $1\frac{1}{2}$ miles each with a basing fare of $2\frac{1}{2}$ cents. This plan is analogous to the copper-zone plan in the division of the company's system into short fare zones averaging a little more than one mile in length, but the variations in the length of the zones is somewhat greater than under the usual copper-zone plan, and a different method of fare collection is employed. Under the company's plan, the fare section and not the fare zone is made the unit for the initial fare. In other words the minimum fare entitles the passenger to ride within the limits of any fare section, but a ride from one fare section to the next, although wholly within the limits of two consecutive zones, will cost 10 cents in cash, or $7\frac{1}{2}$ cents by the use of tickets, instead of 5 cents as would be the case under the ordinary copper zone plan. In this respect, the company's plan retains in part the objections inherent in its present fare system, although there are two graduated increases of 50 per cent instead of an immediate doubling of the fare for any ride beyond the first fare-collection point. This objection is met in the populous centers of Lawrence, Haverhill, Amesbury and Newburyport by the issue of transfer privileges which allow passengers to ride within any two contiguous fare zones for 5 cents and fare concessions are made to other points through the issue of working-men's tickets.

As we have already stated, the new fare plan is expected to yield an increase of approximately 9 per cent in the company's total passenger revenues. Owing to the wide diversity in length of existing fare zones, the application of the new fare plan will result in a reduction of the total cost of transportation between certain points and an increase in the cost between other points on the company's system. For the same reason, the percentage of increase is bound to be greater where relatively long rides are now given for a single fare.

At the hearing complaints were made of specific increases between certain points which were claimed to be excessive. As the result of a careful investigation of all such complaints, it appears that most of the increases complained of did not exceed, and many of them were much less than, 25 per cent for passengers who choose to avail themselves of the commutation tickets provided by the company. In most cases, also, the complainants are enabled to ride to other points at a reduced rate. The company has voluntarily agreed to adjust some of these complaints by a

modification in the length of the fare zones, or by the establishment of special tickets. As the result of these adjustments the Commission is of the opinion that reasonable grounds of complaint have for the most part been eliminated, except in the specific cases hereinafter referred to.

The present fare zone from Haverhill to Wilson's Corner is divided into two fare sections at Lake street, and the outer fare section is divided into two fare zones at Elm Place. Residents of Ayer's Village requested that the division point between fare zones be extended about half a mile beyond Elm Place to Ayer's Village post office. As the length of the outer zone from that point to Wilson's Corner would be approximately one mile if the change were made, the Commission believes that this readjustment of present zone limits is reasonable, and that the company should modify its tariff accordingly.

The principal complaint in regard to the fares proposed was made by residents on the line from Newburyport to Plum Island Point. At the present time, the fare from Balch's Corner, Newburyport, to Plum Island pavilion is 6 cents, and an additional fare of 6 cents is charged from Plum Island pavilion to Plum Island Point. Under the new fare plan, the cash fare from Market square, Newburyport, to Plum Island pavilion would be 10 cents, and to Plum Island Point 16 cents. An additional charge of 5 cents is made for rides to and from Balch's Corner, which is about three-tenths of a mile beyond Market square. It was claimed that many residents on the Plum Island line who travel daily on the Boston and Maine railroad desired to use the street railway line as far as Balch's Corner, which is near the railroad depot. For such passengers the cash fare would be increased from 6 cents to 15 cents as far as Plum Island pavilion, and from 12 cents to 21 cents for passengers riding to the Point.

In order to meet this situation, the company proposed to establish a special commutation ticket of 20 rides for \$2.75, good between Balch's Corner and Plum Island Point. Subsequently, the company agreed to reduce the rate to \$2.40. The Commission, however, believes that this adjustment is inadequate, that the increase in the cash fare is excessive, and that the rates proposed might result in an actual decrease in the revenue received from this line.

The line from Plum Island pavilion to Plum Island Point is one of the four short lines upon which, as already stated, the company desires to retain its existing zones and its existing 6-cent

unit of fare. On the two lines from Salisbury Beach to Salisbury Junction, and from Salisbury Junction to Hampton Beach, the length of the existing zones is commensurate with the length of the proposed fare sections, and a rate of 6 cents, instead of 5 cents, does not appear to be excessive, in view of the higher cost of service upon lines which are operated during the summer months only. On the other two shore lines, the line from Plum Island pavilion to Plum Island Point, already referred to, and the line from Salisbury Beach to Black Rocks, the length of the existing zones are only 1.4 and 1.5 miles respectively. On these lines we believe that the rate of fare should be reduced from 6 cents to 5 cents, which is the typical unit of fare under the company's new fare plan.

We are also of the opinion that on the Plum Island line a lap-over privilege should be given to Balch's Corner without additional charge, as the total distance from Balch's Corner to Plum Island pavilion is only 4 miles, which is less than the average length of two fare sections. As the result of these readjustments the cash fare from Balch's Corner to Plum Island pavilion will be 10 cents instead of 15 cents, and from Balch's Corner to Plum Island Point 15 cents instead of 21 cents. Commutation tickets, good during all hours of the day, should also be sold in strips of 20 tickets for \$1.50 between Balch's Corner and Plum Island pavilion, and in strips of 20 tickets for \$2.40 between Balch's Corner and Plum Island Point.

With the exceptions above noted, the Commission finds that the changes proposed in cash fares, ticket rates and fare limits are just and reasonable. The company is therefore authorized to file a new schedule containing the modifications recommended above and those already agreed to in writing by the company and an order will be issued permitting this schedule to become effective on short notice.

ORDER.

Notice of the Massachusetts Northeastern Street Railway Company relative to proposed changes in rates of fare upon its railway.

It appearing that on April 25, 1918, an order was entered suspending tariffs filed by the company designated as M. P. S. C. No. 5, being a tariff of local passenger rates, and M. P. S. C. No. 6, being a reduced rate ticket tariff, until July 1, 1918, and it further appearing that a full investigation of the matter and things involved has been had and that the Commission, on the date hereof has made and filed a report containing its findings of

fact and conclusions thereon, which said report is herein referred to and made a part thereof, —

It is

Ordered, That the Massachusetts Northeastern Street Railway Company cancel the tariffs specified in the said order of suspension, and that it may file on two days' notice to the public and the Commission, new tariffs in lieu of those cancelled, which shall embody the provisions of the tariffs cancelled, as modified by the changes outlined in the report herein referred to.

By the Commission,

JUNE 29, 1918.

[P. S. C. 2117]

ALLAN BROOKS,
Assistant Secretary.

THE MIDDLESEX AND BOSTON FARE CASE.

Notice of Middlesex and Boston Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

GEORGE M. COX }
GEORGE K. GARDNER } for Middlesex and Boston Street Rail-
 } way Company.

G. E. GLOVER for Citizens of Hopkinton.

ROBERT L. RYDER for Town of Lexington.

WILLIAM J. NAPHEN for Town of Natick.

WILLIAM G. MOSELEY for Town of Needham.

E. B. BISHOP for City of Newton.

HENRY W. JARVIS for Newton Board of Trade and Newton Improvement Association.

JOHN T. SHEA for Waltham Chamber of Commerce.

CLARENCE A. BUNKER for Town of Wellesley.

In point of mileage the Middlesex and Boston Street Railway Company is the sixth largest street railway company in the commonwealth, being surpassed in this respect only by the Bay State, Boston Elevated, Worcester Consolidated, Springfield and Berkshire companies. Of its 130 miles of track, however, only 50 miles are located in the comparatively small cities of Newton and Waltham and the remainder run through country districts. One long line extends west from Newton Lower Falls through Wellesley, Natick, Framingham, Ashland and Hopkinton to Westborough, with branches running to Needham, Saxonville and Wayland. Another line extends from Arlington through Lexington and Bedford to Concord and Billerica, with branches to Woburn and Waltham. Practically all the track is laid in public ways, and there are no high-speed lines, very little long-distance traffic and an absence of any real community of interest between the city and country districts.

A 6-cent fare was introduced on the country lines of this system as early as 1908, and since this Commission was organized in 1913 there have been two successive increases in fares. Prior to the first of these increases, in 1914, the company was charging 5 cents, with an additional cent for every transfer, on all its lines in Newton and Waltham, except those formerly owned by the Newton and Boston company. On the latter and on all its other lines

it was charging 6 cents, with free transfer privileges, selling 50-ride ticket books for \$2.50 good west of Newton Lower Falls. On October 28, 1914, the Commission permitted the cancellation of the 50-ride books and the raising of the fare on the lines in Newton and Waltham to 6 cents, with the proviso that tickets should be sold upon these lines at the rate of 9 for 50 cents. It was estimated at the time that this increase would yield about \$75,000 additional revenue.

Last year the company came before the Commission again, seeking to charge a straight 7-cent fare, without tickets, in Newton and Waltham, and a similar 8-cent fare on the other lines west of Newton Lower Falls and in the Lexington territory. Conferences were held between the company and the remonstrants and a compromise plan was finally agreed upon and approved by the Commission. Under this plan, the system was divided roughly into sections, according to earning capacity. The fare was made 8 cents where traffic is lightest and 6 cents where it is heaviest. On the sections of medium traffic, it was made either a straight 7 cents, or 7 cents with tickets sold at the rate of 20 for \$1.20. Provision was also made for charging 1 cent additional in transferring to a line having a higher rate of fare.

The following table shows how the 105.8 miles of line operated by the company are now divided as between these four grades of fares: —

FARE.	Miles.
6 cents,	21.27
7 cents (with tickets),	44.85
7 cents,	11.07
8 cents,	28.61
Total,	105.80

The 6-cent lines are all in Newton and Waltham. Eight cents is charged on the lines from Lexington to Concord, Billerica and Woburn; on the lines from Needham to Wellesley and Newton; and on the lines in Westborough and Hopkinton. The straight 7-cent fare is charged between Lexington and Waltham and Arlington, and the 7-cent fare with the ticket privilege upon the remaining lines. It was estimated by the company that this change in fares might yield \$60,000 additional revenue yearly.

This compromise tariff went into effect on August 20, 1917, and it was understood that it should be tried for six months and that

the whole question might be reopened at the end of that time without prejudice. The remonstrants who originated the plan urged that such a trial would throw the light of actual experience upon important questions which were in doubt; that the test would cover typical months of summer, fall and winter; and that, with the evidence so secured, it would be possible to determine whether or not 8-cent and 7-cent fares are expedient from the standpoint of the company itself. It was further pointed out that both the Commission and the community would have the advantage of similar experiments which were being made by other companies with the so-called "copper zone" system and other methods of charging.

The new schedule now under consideration was filed by the company on March 14, 1918, some time after the six months had expired, to become effective April 14, 1918. Pending investigation, it was suspended until July 1, 1918. It provides for a straight 7-cent fare, without tickets, on all lines in Newton and Waltham, including the line between Needham and Newton Upper Falls, where the fare is now 8 cents, and a similar 8-cent fare on all the other lines in the territory west of Newton Lower Falls and in the Lexington division. It is further provided that 1 cent additional shall be charged in transferring to a line with an equal or higher rate of fare. For certain rides requiring a transfer, therefore, the charge would be 9 cents. The mileage would be divided between the two rates of fare approximately as follows:—

FARE.	Miles.
7 cents,	39.74
8 cents,	66.06
Total,	105.80

The company estimates that, if these fares had been in force in 1917, its revenue would have been increased by about \$119,000. The theoretical gain as compared with existing fares, however, would be less, since these fares were in effect only during the last four months of 1917.

It is pertinent to consider how far revenue expectations have been realized in the case of the increases already made. The first increase authorized by this Commission became effective on November 1, 1914, and it was estimated that it would yield about \$75,000 additional revenue. The following table shows the pas-

senger revenue in each of the three succeeding years, with the increase from year to year: —

YEAR ENDED —	Passenger Revenue.	Increase.	Per Cent.
October 31, 1914,	\$362,217	—	—
October 31, 1915,	972,652	\$10,435	1.08
October 31, 1916,	1,008,687	36,035	3.70
October 31, 1917,	1,043,881	35,194	3.49
	—	\$81,664	8.48

It will be seen that the increase in the first year amounted to but one-seventh of the amount anticipated, and that the expected gain was not realized until after three full years of operation. For purposes of comparison, the increase in passenger revenue during the three fiscal years preceding the advance in rates is submitted: —

YEAR ENDED —	Passenger Revenue.	Increase.	Per Cent.
June 30, 1911,	\$538,749	—	—
June 30, 1912,	861,156	\$22,407	2.67
June 30, 1913,	899,300	38,144	4.43
June 30, 1914,	951,808	52,508	5.84
	—	\$113,059	13.48

This table shows that neither the gross amount nor the rate of increase has been as large since the advance in rates as before. For further purposes of comparison, the increase in passenger revenue on the Middlesex and Boston between the fiscal years ended June 30, 1914, and December 31, 1917, and the similar increase on five other roads which did not raise their fares during this period was as follows: —

COMPANY.	Year ended June 30, 1914.	Year ended December 31, 1917.	Increase.	Per Cent.
Holyoke,	\$609,778	\$700,077	\$90,299	14.8
Middlesex and Boston, . . .	951,808	1,045,441	93,633	9.8
Northern Massachusetts, . .	209,761	207,845	1,916 ^d	.92
Springfield,	2,069,786	2,372,143	302,357	14.6
Union,	922,607	1,055,934	133,327	14.4
Worcester Consolidated, . . .	2,674,805	3,201,766	526,961	19.7

^d Decrease.

With the exception of the Northern Massachusetts, which operates wholly in rural territory, these roads all do a larger percentage of city business than the Middlesex and Boston.

The last increase in fares went into effect on August 20, 1917. The results up to May 31, 1918, are shown in the following table: —

MONTH.	1916.	1917.	Increase.	Per Cent.
September,	\$89,740	\$92,356	\$2,616	2.91
October,	82,520	84,974	2,454	2.97
November,	78,615	80,617	2,002	2.54
December,	83,584	83,142	442 <i>d</i>	.53 <i>d</i>
	1917.	1918.		
January,	79,185	76,090	3,155 <i>d</i>	3.98 <i>d</i>
February,	71,418	69,095	2,318 <i>d</i>	3.24 <i>d</i>
March,	79,771	79,117	654 <i>d</i>	.82 <i>d</i>
April,	79,072	76,191	2,881 <i>d</i>	3.64 <i>d</i>
May,	83,820	88,164	4,344	5.18
Total,	\$727,720	\$729,686	\$1,966	.27

d Decrease.

This table shows that the gain in the first three months, before the winter weather set in, which was so unfortunate in its effects upon all the street railway companies of the state, was considerably less than the estimate, and that the total increase in the nine months was negligible.

In the past, records have been kept of the receipts on the various routes, but not of the receipts in each fare zone. For that reason it is difficult to make accurate comparisons showing the increase or decrease in revenue on the entire mileage over which a particular fare is charged. As between the lines on which a 6-cent fare was charged, during the eight months, and the lines on which the rate was higher, the results were as follows: —

FARE (CENTS).	1916-17.	1917-18.	Increase.	Per Cent.
6,	\$324,259	\$330,067	\$5,808	1.79
7-8,	403,462	399,618	3,844 <i>d</i>	.95 <i>d</i>

d Decrease.

A further comparison may be made between groups of lines, the separation being made according to the original ownership by the companies which were consolidated as the Middlesex and Boston: —

Group.	Locality.	Fare (Cents).	1916-17.	1917-18.	Increase.	Per Cent.
Commonwealth Avenue, .	Newton.	7 ¹	\$63,329	\$60,317	\$3,012 ^d	4.75 ^d
Newton,	Newton. Waltham.	6	269,053	281,742	12,689	4.72
Wellesley and Boston, .	Newton.	6	55,206	48,326	6,880 ^d	12.46 ^d
Newton and Boston, . .	Needham. Newton.	7 ¹ 8	64,165	61,692	2,473 ^d	3.85 ^d
Lexington and Boston, .	Bedford. Billerica. Concord. Lexington. Waltham. Woburn.	7 8	110,377	110,912	535	.48
Natick and Cohituate, .	Natick. Needham. Wayland. Wellesley.	7 ¹ 8	74,371	68,358	6,012 ^d	8.06 ^d
South Middlesex, . . .	Ashland. Framingham. Hopkinton. Natick.	7 ¹	83,228	90,631	7,403	8.89
Westborough and Hopkin- ton.	Hopkinton. Westborough.	8	7,991	7,708	283 ^d	3.54 ^d

¹ Tickets.^d Decrease.

The results vary so widely that conclusions are difficult. The best showing was made by the 6-cent lines in Newton and Waltham and the 7-cent lines (selling 6-cent tickets) in the South Middlesex district. Further investigation, however, shows that in the one case the increase in earnings was due very largely to the growing traffic on the Watertown line, brought about by reduction of jitney competition and activity at the Watertown Arsenal, and in the other to good business conditions at the factories in Framingham. The worst showing was on the 6-cent Wellesley and Boston line. All traffic, however, from the territory west of Newton Lower Falls comes into Newton over this line, and it is quite possible that the increase in the through rate may have diverted much of the longer distance travel to other means of transportation. So far as can be ascertained from the records, the 8-cent fare in no case produced results at all commensurate with the 33½ per cent increase in rate which it represents. On the lines where it is charged, revenue, in most instances, has actually fallen off.

During the year ended December 31, 1917, the company, according to its annual return, cleared \$31,620.33 after paying operating expenses, taxes and all fixed charges. With this money it paid a 1½ per cent dividend of \$29,805, leaving a balance of \$1,815.33 with which it reduced its accumulated deficit to \$249,-

378.34. It set aside for depreciation, however, but \$12,856, an inadequate amount, and spent less than was needed for maintenance. In the 1914 fare case, the Commission recommended that the company expend "for maintenance and renewals, until some general basis for dealing with depreciation is ordered or indicated by this Commission, substantially 20 per cent of its gross revenue" (2 P. S. C. Rep., p. 146). The actual expenditures since that date have been as follows: —

YEAR ENDED —	Per Cent.
June 30, 1915,	17.39
June 30, 1916,	17.70
December 31, 1916,	18.60
December 31, 1917,	18.00

While no thorough analysis of the property of this company has been made to determine with more accuracy the necessary provision for depreciation, investigations since made in the case of other companies leave little room for doubt that 20 per cent of gross revenue is considerably less than is needed for maintenance and depreciation on a property of this general character and relatively low earning power; and this opinion is confirmed by the present condition of road and equipment. The Inspection Department of the Commission reports that both track and cars have been indifferently maintained, and that comparatively large expenditures would be necessary to restore them to first-class operating condition. Besides failing to expend enough for current maintenance, the company has not attempted to charge off abandoned property and has made small provision for the future renewal of the larger property units.

The company purchases its power from the Edison Electric Illuminating Company of Boston upon terms which were criticized by the Commission in the 1914 fare case (2 P. S. C. Rep., pp. 128-131); but the recent extraordinary advance in the price of coal, brought about by the war, has made this arrangement advantageous for the time being and has protected the company against an increase in operating cost on this account from which other street railway companies have suffered seriously. The cost of other supplies, however, has steadily increased, and this is also true of wages. On May 1, 1917, the decision of a board of arbitration granted increases in wages estimated to amount to about

\$45,000 in the first year, an increase which was in effect only during the latter half of 1917. On June 1, 1918, a further advance of about \$24,000 per year was voluntarily given because of war conditions, and on July 1 \$6,000 more per year will be added under the arbitration decision. Even with these increases, the wages of the company's employees will be on a distinctly lower basis than the wages which other companies have recently found it necessary to pay to hold their men and enable them to meet the continually rising cost of living. If the fares proposed are allowed to go into effect, there is every reason to believe that the company will grant a further substantial increase in wages, and such an increase may prove necessary even if no advance in fares is permitted.

To meet this increasing expense, service has been cut in a number of cases and other economies are being or will be effected. The recent reduction in the number of stopping places, recommended by the national and state fuel administrations, will undoubtedly save labor and power, and the company expects in the near future to be able to substitute for present equipment 10 one-man operated cars on certain lines of light traffic. Even with these savings, however, and assuming that the full amount of additional revenue estimated could actually be realized from the proposed schedule of fares, there is certainly no prospect that the company would be able, if these fares were allowed and if sufficient provision were made for maintenance and depreciation and for the gradual charging off of abandoned property, to pay more than the "very moderate dividends" which the Commission in 1914 felt could fairly be earned (2 P. S. C. Rep., p. 146). Taking into consideration the fact that past experience gives little reason to believe that the proposed schedule would produce the estimated gain, any objection to the new fares on the ground that they might yield undue profit may be eliminated, even if the history and past experience of the company be viewed in the most unfavorable light.

The remonstrants, representing the cities and towns affected, in general conceded the need of additional revenue. Their objections to the new fares were based either on the ground that they would curtail traffic and hurt, rather than help, the company, or on the ground that they would discriminate unfairly against certain parts of the territory served. Neither of these objections can be lightly dismissed. The first raises a question with which it is especially difficult to deal. At a time when most of the street railway companies in the commonwealth have sought or are seek-

ing increased rates, the Middlesex and Boston differs from nearly all of the others, at least of the larger companies, as to the best method of raising fares. The general view seems to be that it is desirable to try to hold short-haul business by keeping the minimum fare comparatively low. No large company except the Middlesex and Boston has proposed a minimum fare in excess of 6 cents. The Springfield and Holyoke companies have adopted a city zone system to preserve a 5-cent rate within the central district; and the Bay State company, which has adopted a similar system, has introduced reduced-rate tickets so that short city rides can be obtained for 5 cents in rush hours and for 4½ cents in the so-called "off-peak" hours. The Massachusetts Northeastern, which now has a 6-cent minimum, proposes to change this to 5 cents, and a similar minimum rate is provided for in the new tariff recently filed by the Interstate Consolidated. On inter-urban lines the present tendency is toward a mileage system with a minimum not in excess of 6 cents.

In contrast, the Middlesex and Boston proposes a minimum of 7 cents on its city lines and of 8 cents in the country districts. Its general manager dismisses the various forms of zone system as "new-fangled" ideas with which others may experiment but which he has no desire to try, and regards the street railway fare problem as a simple matter of marking up existing prices. If 7 cents or 8 cents will not produce the revenue desired, these rates must be made still higher, and he frankly states that in his judgment the Middlesex and Boston ought now to be seeking a 10-cent flat fare. • He desires to avoid all complexities which might be caused by changes in zones and the use of tickets, and apparently regards as useless any attempt to attract the short-haul rider. His aim seems to be to rely upon the patrons to whom the service is *necessary* and to make them pay for what they receive. "We have got," he states, "to a point where we ought to know the people who are willing to pay the price of the transportation business which we furnish, and the sooner we find that out the better" (Record, p. 27).

The remonstrants feel that the management has not offered a "constructive system to build up the revenues of this road." Quoting from the argument of the city solicitor of Newton (Record, pp. 213, 214):—

Mr. Cox, and his board of directors, I am afraid, are obsessed with this one idea, — increase the amount, increase the amount, not once or twice, but three times and four times if necessary; and if you should grant the 7 and 8 cent fare with 1 cent for transfers, Mr. Cox would find his

revenues still too small for his needs, and he will come in here again in six months and say, "I want 8 cents and 9 cents and 1 cent for transfers," and six months later he will come in and say, "I want 9 cents and 10 cents," and by that time nobody will ride on his road.

Somewhat similar views, curiously enough, were expressed by counsel for the company in a brief filed in connection with the wage arbitration of 1917 which was introduced as an exhibit in the fare case before this Commission last summer, as follows (Exhibit 17, p. 44): —

A further increase in the rate of fare would be far more likely to decrease net revenue of the company than to increase it. Each time the fares of the company have been increased in a territory the riding has shown a material falling off (Record, p. 495). As the unit of fare gets higher the effect of an increase is more likely than before to promote walking instead of riding, and would increase the invitation to automobile competition. *Even though the Public Service Commission might approve a further increase, there is no way in which the public can be compelled to ride.* Aside from the restraint of public regulation, there is an inherent economic limitation in the amount which the company can secure for its service, and it looks as if the maximum amount was more likely to be obtained under a 6-cent fare than under a still higher fare.

Broadly speaking, the position taken by most of the remonstrants was that, while the company needs more revenue, it has chosen a crude method to produce this result and one which will really do it little or no good, besides injuring the communities which it serves.

The objections raised on the ground of discrimination are similar. It was urged that the company has decreed, in its new schedule, that the lines in Newton and Waltham and the line from Newton Upper Falls to Needham shall have a 7-cent fare and that all other lines shall have an 8-cent fare, without giving any particular consideration to earnings or to local traffic conditions. An exhibit filed in the fare case last summer showed that the car mile earnings of the lines in Newton which were formerly owned by the Commonwealth Avenue and the Newton and Boston companies, for the most part are lower than the average for the system, while the similar earnings of the lines in Wellesley, Natick and Framingham as a rule are above the average; yet the former are to have a 7-cent and the latter an 8-cent rate. Workmen who now ride comparatively short distances to and from the industries in Framingham on tickets sold at the rate of 6 cents each would suffer an increase of $33\frac{1}{3}$ per cent, while the similar

increase for workmen in Waltham would be but 16 $\frac{2}{3}$ per cent. In the case of the Lexington division, it was shown that traffic is comparatively heavy on the zone between Arlington Heights and Lexington; yet it is proposed to make the fare 8 cents, although zones of apparently less earning capacity in Newton and Waltham are to have a 7-cent rate.

Not all the community representatives, however, were opposed to the company's plan. The Waltham Chamber of Commerce went on record in favor of a 7-cent fare and expressed strong opposition to the introduction of any form of zone system. No representative of the Waltham city government appeared in remonstrance, nor was any opposition offered by some of the towns. Open criticism was confined, indeed, largely to the city of Newton and the towns of Hopkinton, Lexington, Natick and Wellesley. It is important to note that the territory served by the Middlesex and Boston is largely suburban and residential in character. There is little manufacturing, except in Waltham and Framingham, and the population is such that it is quite probable that this company has been more adversely affected by the increasing use of automobiles than most of the other street railway companies in the commonwealth. It is also a fact that the lines in the adjoining cities of Newton and Waltham interlace in such a manner that the establishment of a zone system in this portion of the territory would be difficult. Traffic moves not only towards certain local centers, but also to and from the points of connection with the lines of the Boston Elevated Railway Company.

In the Bay State rate case, it was held that, in view of the burden of proof imposed by the statute, the company must "satisfy the Commission that there is at least a reasonable prospect that the change in fares desired will result in an increase in revenue" (4 P. S. C. Rep., p. 14). There is great practical difficulty, however, in applying this rule. Where a need for additional revenue has been demonstrated, the Commission would not be justified in refusing to allow a company to adopt a certain method of securing this revenue merely because of a difference of opinion in regard to the probable results. There must be evidence, upon which the Commission can rely, sufficiently clear to convince reasonable men that the method is unwise, will not secure the desired result, and ought in both the company's and the public interest to be set aside.

Up to the present time, unfortunately, the evidence in regard to the effect of increases in fares is not entirely clear. While the experience of practically all the companies which have raised

rates has been disappointing, general conditions have been so abnormal that it is difficult to draw positive conclusions. In several cases companies have gained very little apparent benefit from the increase, but in every such instance they have been strong in the belief that results would have been worse if the increase had not been made. The falling off in traffic has been ascribed only in part to the higher fares, and such factors as increased use of automobiles, weather conditions, the departure of young men for war service and the thrift campaign are also held responsible. In the present instance these other factors have, without doubt, played a large part in the poor showing of the past eight months, and this is especially true of the unusually severe winter weather in January, February and March. The Boston and Worcester Street Railway Company, which operates in part through the same territory and has a mileage zone system of charging, with a minimum fare of 6 cents, has made no better showing than the Middlesex and Boston.

The Commission is inclined to the opinion that the proposed fares do not represent a well-considered plan for the raising of additional revenue. It may be that the management has made a careful study of traffic conditions and has sound reason for believing that the new schedule is better suited to these conditions and will produce more satisfactory results for all concerned than any other that might be devised; but if this is the fact it was not made clear at the public hearings and an opposite impression was created. At the same time, the Commission is satisfied that there is "at least a reasonable prospect" that this schedule, taken as a whole, will result in some increase in revenue and it cannot, therefore, be disallowed in its entirety under the rule laid down in the Bay State case and above quoted.

It does not follow, however, that modifications ought not to be required. The Commission is not satisfied from any evidence yet produced that it is fair to discriminate against the main line through Wellesley, Natick and Framingham, formerly owned by the Natick and Cochituate and South Middlesex companies, by making the rate 8 cents, when 7 cents is charged throughout Waltham and Newton and even on one of the lines to Needham. Nor are we satisfied that the 1-cent transfer charge ought in all cases to be permitted. In transferring from a line with a lower to one with a higher fare such a charge is reasonable, but where the lines are of similar character and the rate is the same there seems no adequate justification for requiring a passenger to sub-

mit to the inconvenience of changing cars and pay an extra charge as well. In cities which have a clearly marked traffic center, it may be a fair assumption that most passengers who transfer at this point secure in this way a ride longer than the average, but no evidence was offered that this is the case with the transfer passengers of the Middlesex and Boston. If the company has such evidence, it is, of course, at liberty to bring this matter up for renewed consideration.

The demands of labor have made the situation critical and the company needs quick relief. It would not be wise nor fair, under present conditions, to delay this relief until the study of traffic conditions could be made which would be necessary to determine whether or not it is possible to devise a system of fares better adapted than the one now proposed to hold the short-haul rider and encourage the movement of traffic. The Commission believes, therefore, that the company should be permitted —

(1) To make the unit fare 7 cents on all lines where it is now 6 cents. This will give the company a substantial increase in rate where traffic is heaviest and a higher minimum fare than is charged in city territory elsewhere in Massachusetts or, so far as we are aware, in the entire country. It is more likely than any of the other changes proposed by the management to produce an actual as well as a theoretical increase in earnings.

(2) To abolish the present tickets which are now sold at the rate of 20 for \$1.20 on most of the lines where the cash fare is 7 cents. Since a relatively large percentage of the passengers use these reduced-rate tickets, this change will give the company a substantial increase in rate on these lines as well as on the lines in the cities of Newton and Waltham. The refusal to permit a further increase to 8 cents will not, in the opinion of the Commission, materially affect revenue.

(3) To charge 1 cent additional in transferring from a line with a 7-cent fare to a line with an 8-cent fare. The company may also, if it so desires, charge 1 cent additional to passengers transferring at or riding through Lexington Center. In our judgment, the present 7-cent rate ought to be preserved between Arlington Heights and Lexington Center, but the zone extends a considerable distance beyond the latter point and, if the company wishes to charge 8 cents to through or transfer riders, it may do so.

(4) To continue the present 8-cent rate on the lines where it is now charged. The wisdom of this rate is doubtful, but the lines where it is in effect are unprofitable and the communities through which they operate are fortunate in having service at all. The questions raised by this high minimum fare may be taken up later in connection with the further study of the entire situation which is recommended below. In the mean-

time, the company is free to charge a lower rate on any of these lines if it deems that competition or other conditions make such a change desirable. It is our understanding that a 7-cent rate is proposed on the line from Needham to Newton Upper Falls, where 8 cents is now charged, in the hope that the lower fare may encourage through travel over this line into Newton and Boston. A new transfer is also proposed at Needham Square between the Wellesley and Newton lines, and this change, we believe, is reasonable.

If the company will file a new schedule embodying the changes thus indicated, it will be allowed to take effect on short notice. If this is done, however, the new fares should be regarded as temporary in character and subject to later modification if a more thorough investigation of traffic conditions shows that a better system of fares can be devised. The Commission is not satisfied that this company is right, and practically all the other large companies of Massachusetts wrong, with respect to the advantage of a comparatively low minimum fare and the retention and encouragement of short-haul traffic. The idea that riding must ultimately be confined to those who find the service a necessity and that no benefit can be gained by attempting to attract any other class of riders is based upon a pessimism with which we have little sympathy. That this idea is not a prevalent one in the industry may be gathered from the following editorial paragraph taken from the *Electric Railway Journal* of June 22, 1918: —

It was our recent privilege to look over a traffic study made in a town of 50,000 people with a view to proving the need, at a forthcoming hearing before the State Commission, for a higher rate of fare. Quite a surprise was sprung upon the management when its expert produced statistics of travel not by lines but by fractions of lines. Here, for example, was a line 4 miles long on the first $2\frac{1}{2}$ miles of which 70 per cent of the traffic originated, whereas the remaining, outer, $1\frac{1}{2}$ miles produced only 30 per cent. Two things immediately became obvious: First, that many short riders would walk if they had to pay more than 2 cents a mile; second, that the long riders were getting too much service at an absurdly low rate of fare. This condition proved so prevalent that the company has already decided not to ask for a flat increase in fare but simply to put all the facts before the Commission that the latter may decide whether real relief can be obtained in better ways than by the driving off of short riders.

We are aware that the management expenses have been cut to the bone and that the general manager has been overburdened

and laboring under great difficulties. At the same time, the Commission has confidence that it will pay this company, poor as it is, to make a more careful study of traffic conditions and of the whole rate problem than we have been given any reason to believe that it has yet made, and in such a study we will gladly assist to the extent of our ability. The Inspection Department will be directed to begin this work at once, and the Commission will reserve the right to reopen the case for further consideration at any time when such action appears desirable. The investigation pursued by the Commission will also cover questions of operation.

In conclusion, a word should be said in regard to the financial policy of this company. Substantially all the common stock is owned by a holding company organized in the form of a voluntary association and known as the Boston Suburban Electric Companies. This holding company was formed in 1901 and acquired, at about that time, most of the companies which were afterwards consolidated as the present Middlesex and Boston. The remainder were acquired a few years later. While these companies, which were thus brought under common control, were operated from the beginning in combination under a single management, the separate corporate organizations were maintained in some cases for several years, and the process of technical consolidation was not completed until 1912. During the intervening period some of the companies had net earnings applicable to dividends, but others did not. The policy was followed, however, of declaring dividends in the case of the more prosperous companies practically up to the extent that the earnings would permit, while the deficits of the other properties continued to increase. The Newton and Boston Street Railway Company, in particular, which sold power to some of the other companies, accumulated a deficit which amounted at the time of its consolidation to \$281,692, or more than the par value, \$200,000, of its outstanding stock.

As a result of this policy, the total dividends paid in every year up to 1913 were in excess, often largely in excess, of the combined net earnings of the system, so that, when the final merger was effected in 1912, the consolidated company was found to have a profit and loss deficit of more than \$250,000. While the policy which was thus pursued with respect to dividends prior to the time of technical consolidation was no doubt legally permissible, it seems to the Commission that it was unsound and detrimental to the best interests of the shareholders of the holding company.

If the companies which were brought under common control had been consolidated from the start, no one would have contended that the amounts could properly be paid out in dividends which actually were paid, and it does not seem that the mere fact that a technical merger had not been effected, although the companies were in fact combined as one system, changed the situation from the standpoint of sound business policy. It is true that the dividends paid were not large, but, while this is an alleviation, it does not alter the essential character of the policy. It was pursued, it should be said, prior to the enactment of the Public Service Commission law and at a time when the Board of Railroad Commissioners had no power to suspend tariffs and only recommendatory authority over rates.

Since the final consolidation in 1912, the company has consistently paid practically all the dividends that its yearly earnings would permit, without regard to the large accumulated deficit and with little regard to a proper provision for the maintenance and depreciation of its property. At the public hearings in the fare case last summer, the attention of counsel for the company was directed to the fact that it had not expended the 20 per cent of its gross revenue for maintenance and renewals recommended by the Commission in its 1914 decision, and he was asked whether the dividends which had been paid were justified under these conditions. In reply he stated that "if the property is kept in a *reasonably safe condition* in the judgment of the operating officers of the company, they feel that they are entitled to pay a moderate dividend" (Record, p. 505). Later he elaborated this answer as follows (Record, p. 506): —

I think that I can fairly say that the board of directors believe that if the property is kept in a safe condition so that they have no apprehension from accidents that could be prevented by the exercise of reasonable precaution, that a moderate return to the stockholders, paid from year to year, stands on the same basis as a payment to the employees — and that they are entitled to make it.

In other words, it is the policy of this company, notwithstanding the fact that its capital stock is clearly impaired by the accumulated deficit, to say nothing of depreciation, to regard moderate dividends practically as a fixed charge, to be paid in preference to the up-keep of the property, provided only that it is kept in "reasonably safe" condition.

Such a policy in competitive business would be regarded as destructive of the best interests of the owners of the property and

contrary to principles of good finance, and it is difficult to believe that the mere fact that this company is a public service corporation, rather than an ordinary industrial enterprise, makes such a difference that a practice of this sort becomes sound which would otherwise be unsound. If the prosperity of a street railway company were merely a matter of rates and any deficiency in earnings could be regarded as wholly temporary pending an advance in charges, there might be more ground for such claim, but this is not the case. Prosperity is not only dependent upon rates, but also upon location and general conditions. As the counsel for this company has rightly said, there is an "inherent economic limitation" in the amount which a company can secure for its service.

If the company is ultimately to be put squarely upon its feet, it will be necessary to wipe out the accumulated deficit, charge off abandoned property and improve the physical condition of the property now in use. Under the circumstances and especially under present conditions, the stockholders may well consider whether the policy which has been and is now being pursued with respect to dividends is not one which is likely in the long run to prove detrimental to their best interests.

By the Commission,

ANDREW A. HIGHLANDS,

JUNE 29, 1918.

[P. S. C. 2096]

Secretary.

MILFORD, ATTLEBOROUGH AND WOONSOCKET FARES.

Notice of Milford, Attleborough and Woonsocket Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

BENTLEY W. WARREN for Milford, Attleborough and Woonsocket Street Railway Company.

JOHN C. LYNCH for Towns of Bellingham, Franklin, Hopedale, Mendon, Milford, Plainville and Wrentham.

The Milford, Attleborough and Woonsocket Street Railway Company is a small company which owns and operates about 30 miles of single track in rural territory southeast of Worcester and near the Rhode Island line. The following table shows the towns which it serves, with their population in 1915: —

	Population.
Bellingham,	1,953
Blackstone,	5,889
Franklin,	6,440
Hopedale,	2,663
Mendon,	933
Milford,	13,684
Plainville,	1,408
Wrentham,	2,414

In the case of Blackstone, Hopedale and Mendon, the road merely runs through a corner of the town. There are two lines which intersect in the town of Bellingham, the four termini being Milford, Caryville (in Bellingham), Plainville and the Rhode Island state line. The cars run through from the latter point over the tracks of the Rhode Island Company into Woonsocket, and at Plainville the Interstate Consolidated company connects for Attleboro. The chief business is between Milford, Franklin and Woonsocket.

Fares have not been changed materially since the road began operation. The unit is 5 cents and the seven zones vary from 5.4 miles to 1.3 miles in length. The company now proposes to es-

tablish a mileage system, dividing the road into 28 zones, averaging about 1 mile in length, making the rate $2\frac{1}{2}$ cents per zone, with a minimum fare of 5 cents good for a ride in any two adjacent zones. When the total fare computed shows a half cent, the company proposes to collect the full cent. The cash fare for a ride of three zones would thus be 8 cents, rather than $7\frac{1}{2}$ cents; but provision is made for the sale of 10 tickets for 25 cents, so that patrons may in all cases obtain rides at the exact rate of $2\frac{1}{2}$ cents per zone. It is estimated that the new tariff would produce a total passenger revenue of \$170,643 as compared with \$96,810 in 1917, an increase of 76.3 per cent.

The company was organized in 1899 and the outstanding stock and bonds were all issued with the approval of the Board of Railroad Commissioners. The capitalization on March 31, 1918, was as follows: —

Stock,	\$315,000
Bonds,	300,000
Notes payable,	20,000
	<hr/>
	\$635,000

The indebtedness evidenced by the notes has been incurred without public supervision, but the amount is comparatively small. The permanent investment per track mile is but \$22,156.

All the stock has been owned since 1907 by a voluntary association, known as the New England Investment and Security Company, which also controls the Worcester Consolidated, Springfield, and Interstate Consolidated companies. In general, all four companies have the same executive officers, salaries being prorated on the basis of gross earnings. As a result, the management expense of the Milford, Attleborough and Woonsocket is low, the amount spent for salaries of general officers in 1917 being but \$897. Until about 1913 the New England Investment and Security Company was controlled, directly or indirectly, by the New York, New Haven and Hartford Railroad Company. Control is now in the hands of its preferred shareholders, but the railroad company still has the largest financial interest. The Milford, Attleborough and Woonsocket stock was originally acquired by the holding company in exchange for half the amount of New Haven stock, then paying 8 per cent.

The bonds bear interest at the rate of 5 per cent, but mature on October 1, 1919. Dividends have been paid in but eight of the 18 years in which the road has been operated, as follows: —

	Per Cent.
1902,	4
1906,	2½
1908,	4
1909,	4
1911,	3
1913,	6
1914,	6
1915,	4

Operating revenue reached its maximum in 1913 and has since fallen off, while operating expense during the same period has steadily increased, as shown by the following table: —

YEAR ENDED —	Operating Revenue.	Decrease under 1913 (Per Cent).	Operating Expense.	Increase over 1913 (Per Cent).
June 30, 1913,	\$116,692	—	\$74,396	—
June 30, 1914,	114,079	1.39	75,884	2.00
June 30, 1915,	111,711	3.43	79,635	7.04
June 30, 1916,	106,479	7.96	85,815	15.35
December 31, 1916,	106,929	7.66	90,781	22.02
December 31, 1917,	108,132	6.53	98,350	32.19

Passenger revenue has decreased more rapidly than the total operating revenue, being offset in part by the gain from freight and express traffic which, although still small in volume, has increased five fold since 1913.

YEAR ENDED —	Passenger Revenue.	Decrease under 1913 (Per Cent).	Freight and Express.	Increase over 1913 (Per Cent).
June 30, 1913,	\$106,531	—	\$1,622	—
June 30, 1914,	106,695	.15 ¹	3,440	112.08
June 30, 1915,	98,157	7.86	9,088	460.30
June 30, 1916,	94,751	11.06	9,452	482.74
December 31, 1916,	95,311	10.53	9,504	485.94
December 31, 1917,	96,810	9.12	9,717	499.07

¹ Increase.

The chief increase in expense has been in the item "Conducting Transportation," which includes wages of motormen and conductors and was 48.4 per cent larger in 1917 than in 1913. Cost of power increased 31.6 per cent. Maintenance has grown as follows: —

YEAR ENDED —	Total Maintenance.	Per Cent Operating Revenue.	Per Car Mile (Cents).
June 30, 1913,	\$19,339	16.72	4.39
June 30, 1914,	17,383	15.24	3.94
June 30, 1915,	19,949	17.86	4.71
June 30, 1916,	23,145	21.73	5.42
December 31, 1916,	24,059	22.50	5.58
December 31, 1917,	23,467	21.70	5.43

In view of the fact that the 1917 maintenance expenditures included \$2,458 for depreciation reserve, while no similar appropriation was made in 1913, the increase in this item has not been large.

In 1917, earnings failed by \$8,264 to pay operating expenses, taxes and interest on debt. The company has based its case in support of the new schedule of rates upon the following estimate of revenue required: —

Operating expenses (estimated for 1918),	\$114,446
Depreciation which should be set up in addition to that now being set up annually on account of depreciation of rolling stock,	10,731
Taxes (estimated for 1918),	5,100
Return on investment (6 per cent of \$638,900),	38,334
Contingency allowance (1 per cent of gross),	1,703
Revenue required,	\$170,314

A further estimate was submitted indicating that the new rates would provide a yearly revenue of \$170,643, or about the amount required.

The estimated operating expenses for 1918 compare with actual expenses in 1917 as follows: —

	1917.	1918.
Way and structures,	\$10,993	\$18,954
Equipment,	11,635	13,360
Power,	27,893	32,155
Conductors,	36,331	37,980
Trains,	279	277
	11,219	11,720
	\$98,350	\$114,446

The estimates for "Equipment," "Conducting Transportation" and "Traffic" were accepted by the remonstrants as reasonable, but it was urged that the other items were too high and that the total estimate might fairly be reduced from \$114,446 to \$105,291, a decrease of \$9,155. The Commission was not convinced that the remonstrants were right in this contention, but the question is not now important, for the company, as the result of an arbitration award by Mr. Henry B. Endicott, executive manager of the Public Safety Committee of Massachusetts, has recently given the men an increase in wages estimated to amount to more than \$15,000 per year. In view of this award, which has raised the maximum wage for blue-uniform men from 34½ cents to 43 cents per hour, there can be little doubt that the total operating expense for the ensuing year will exceed the sum estimated, if the property is properly maintained.

The company manufactures its power in a small plant which is not of the most modern design. The cost naturally compares unfavorably with the cost in larger and better equipped stations, and it was urged that the road could save expense by buying from some hydro-electric or other large power supply company. Under present conditions, however, it appears that it would be difficult to make an advantageous arrangement of this sort. The investment in the present plant would remain, and it would be necessary to add converting apparatus, exceedingly difficult to obtain in war time, even if the company could raise the necessary capital.

The further allowance for depreciation included in determining revenue required is \$5,985 less than the amount at first estimated by the company, the reduction being made along lines indicated by the Commission in the Springfield rate case, decided March 30, 1918. It would permit a provision for depreciation far larger than has been made in the past, but, if adequate provision had been made heretofore, the company would now have a reserve available for the replacement of old cars and semi-obsolete power equipment. It is true that depreciation requirements are relatively less on a small country road like this, operating in part on private right-of-way, than in the case of the larger city systems; and it also seems that the company has included in its maintenance estimates more items properly chargeable to a depreciation reserve than it has made allowance for. A careful analysis of the property would be necessary before reaching a definite conclusion in regard to this matter, but it is safe to say that the further al-

lowance for depreciation, over and above renewals provided for in maintenance, should not be less than \$7,500.

The company's allowance for "return on investment" is 6 per cent of the book value of physical property. This would be sufficient, after meeting interest on funded and unfunded debt, to pay dividends of slightly more than 7 per cent. No such dividends have ever been paid by the company, even during the period prior to 1913, when it was free to raise its fares without Commission approval. In other words, the company is now seeking, if this estimate may be taken as an expression of its desire, to obtain a return which has been consistently beyond its reach in normal times when it was apparently content with existing fares.

A brief review of the company's record in the past is desirable in considering this question of return. As shown above, while little provision for depreciation has been made, dividends in the aggregate have been meager, and it cannot be said that the failure to care for depreciation has been due to excessive payments to the stockholders. Their return has been considerably less than they were justly entitled to receive. While much of the property is old and below modern standards, it has been maintained in fairly good physical condition. Inspectors of the Commission report that the condition of roadbed and track on the whole is above the average for country lines in the commonwealth. Relations between the company and the communities which it serves have been friendly, and, if the latter have not been satisfied with the service, they at least have made very few complaints to the Commission. Aside from these facts there is nothing in the company's history which calls for comment, except two investments which seem to have been ill-advised. Shortly after operation began, certain real estate and water power rights were sold for \$20,000, which was paid in bonds of the Worcester Textile Company which have had little, if any, value. The company also invested about \$28,000 in a park at Hoag Lake, which for some time has been abandoned. This latter investment, however, was made at a time when parks were believed to be a desirable adjunct to the street railway business, and when other companies were very generally making similar investments.

Taking all facts into consideration, including the failure to receive an adequate return in the past, 7 per cent on the stock investment could not fairly be regarded as unjust or unreasonable under ordinary circumstances. It may seriously be questioned,

however, whether a company can reasonably or wisely seek to obtain, under war conditions, a return substantially in excess of any return which it has been able to earn throughout its entire past history. If this company could be assured of earning at the present time, after meeting all necessary expenses and charges, including depreciation requirements, 5 per cent upon its capital stock, it would have reason to regard itself as fortunate.

The contingency allowance of one per cent of gross earnings was held by the Commission in the Springfield rate case to be reasonable. The estimate submitted for taxes is about \$1,500 in excess of the amount paid in 1917. We see little reason to believe that there will for the present be such an increase.

Summing up, the minimum revenue requirements of the company may be estimated as follows: —

Operating expenses,	\$114,446
Depreciation reserve,	7,500
Taxes,	3,600
Return on investment (interest on debt and 5 per cent on stock),	32,034
Contingency allowance,	1,592
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Revenue required,	\$159,172

In view of the recent heavy increase in wages and the other facts above stated, this estimate may be regarded as conservative. Allowing 6 per cent on stock, the amount would be increased to \$162,322.

To secure this revenue the company must depend upon its passenger business and, in lesser degree, upon other sources of income, such as freight and express traffic. Last year the revenue received from these other sources was \$12,174. The company has recently been permitted, however, to follow the steam roads in increasing its freight rates materially, and the outlook for this branch of the business seems in other respects good. It is not unreasonable, therefore, to assume that the company should be able to secure at least \$15,000 from these other sources of income during the ensuing year. This leaves about \$144,000 to be obtained from passengers, or about \$147,000 if a 6 per cent return be included.

The increase in fares proposed is very heavy. The following table shows the change in the rate between typical points and the percentage of increase in each case, together with the average: —

	Present (Cents).	Proposed (Cents).	Increase (Per Cent).
Milford-Bellingham Center,	5	15.0	200
Milford-Rhode Island line,	15	30.0	100
Milford-Franklin Center,	15	25.0	67
Milford-Wrentham Center,	20	35.0	75
Milford-Plainville,	25	47.5	90
Milford-Caryville,	10	27.5	175
Franklin Center-Bellingham Center,	10	12.5	25
Franklin Center-Rhode Island line,	10	20.0	100
Franklin Center-Wrentham Center,	5	10.0	100
Franklin Center-Plainville,	10	22.5	125
Franklin Center-Caryville,	10	17.5	75
Wrentham Center-Bellingham Center,	15	22.5	50
Wrentham Center-Rhode Island line,	15	30.0	100
Wrentham Center-Plainville,	5	12.5	150
Wrentham Center-Caryville,	15	27.5	83
Plainville-Bellingham Center,	20	35.0	75
Plainville-Rhode Island line,	20	42.5	112
Plainville-Caryville,	20	40.0	100
Caryville-Bellingham Center,	5	15.0	200
Caryville-Rhode Island line,	10	22.5	125
	260	510.0	96

The company's estimate of the revenue to be derived from the new schedule was based on traffic observations covering but one day, but in view of the above table its estimate that the increase would amount to about 76 per cent, if the traffic loss is not more than 10 per cent, is probably not far out of the way. As a matter of fact, however, the rather extensive experience which the Commission has had with similar cases has shown that small reliance can be placed upon such estimates under present conditions. We know of no case where the actual results from advances in rates have equaled anticipations. It is far from certain, in the present instance, that the loss of traffic would not be considerably more than 10 per cent. The company is fortunate in having very little rail competition, and there have been few jitneys in its territory; but the effect of a sudden jump in rates ranging from 25 to 200 per cent and averaging in the neighborhood of 100 per cent is beyond calculation. Such an increase is practically a leap in the dark and advance estimates of results are interesting but not convincing.

The towns through which the road operates are not opposed to an increase in fares, but are all hostile to the proposed mileage zone system of charging. They united in employing special counsel and an expert accountant to represent their interests before the Commission and strongly urged, as an alternative, that the present zones be retained and the unit of fare raised from 5 cents to 7 cents. Their contention is that the mileage zone system, with its violent and disproportionate increases in the rates between the various centers, would destroy the good feeling which has heretofore existed, discourage travel, encourage every feasible form of competition, and prove of little financial benefit. On the other hand they feel that, if the existing system of charging were retained and the minimum fare raised to 7 cents, the people of the towns would willingly pay the higher rate, that there would be no substantial loss of traffic, and that results would be to the advantage of all concerned.

Certain modifications of the proposed zone system were suggested by the Commission at the hearing, and the company was asked to submit estimates of the probable revenue in each case corresponding to the estimate of \$170,643 for the schedule as filed. These modifications were as follows:—

Plan I. — Under this plan the mileage zones would not be changed, but the rate would be 2 cents per zone, instead of $2\frac{1}{2}$ cents, and the minimum fare would be 5 cents for three zones or less, instead of 5 cents for two zones. The revenue estimate submitted by the company is \$131,264.

Plan II. — This would be the same as Plan I, except that the minimum fare would be 6 cents for three zones or less. The revenue estimate is \$136,515.

Plan III. — Under this plan, instead of changing the rates, a somewhat similar result would be accomplished by reducing the number of zones on the lines between Milford and Franklin and the Rhode Island boundary, where the traffic is heaviest. The zones between Milford and Bellingham Four Corners are short under the schedule as filed, and these would be reduced from seven to five. Between Bellingham Four Corners and the Rhode Island line, four zones would take the place of five. The estimate submitted for this plan is \$152,243.

No estimate was submitted by the company of the probable revenue results from a straight 7-cent fare, but on the basis of the number of passengers carried in 1917 — and the number has decreased rather than increased so far this year — the total passenger revenue would be \$136,808, assuming no traffic loss, and \$123,128 if the loss were 10 per cent.

Clearly the company is fairly entitled to additional revenue, and the question comes as to which of the suggested methods of increasing fares it should be permitted to adopt. The mileage zone system has recently been put into effect on many lines in Massachusetts and has certain marked advantages. Each passenger pays in proportion to the length of his ride — in other words, for what he receives — and it is possible to retain a low minimum fare for short-distance travel, a form of traffic which is very desirable from the street railway standpoint and likely to be lost if a high minimum is established. In and about Franklin Center this company now has quite a little traffic of this sort, in connection with certain manufacturing establishments. Under the existing system, also, there are marked inequalities in rates. Between Milford and Bellingham Center, a distance of 5.3 miles, the fare is 5 cents, whereas it is necessary to pay 10 cents for the ride between the Unionville car house and Bellingham Center, a distance of but 2.5 miles, since a single fare from the latter point is good only for the 1.3 miles to Bellingham Four Corners.

It is true, however, that a straight 7-cent fare has less disadvantages on this road than on many others, for the proportion of short-haul traffic is low and the riding is mainly between centers of population some distance apart. Much of the trackage runs through territory where little, if any, traffic originates. The communities are accustomed to the present system of charging, apparently are satisfied with it and, by retaining this system, the company could not only preserve the good feeling which now exists but would also save the trouble and expense involved in the introduction of a rather complicated and experimental new method of collecting fares.

If the zone system is to be adopted, it seems to the Commission, in view of the company's estimate, that Plan III is the one which ought to be approved. If these estimates are correct, it will provide somewhat more revenue than the minimum requirements above indicated, but these requirements were determined on a very conservative basis, and, taking into consideration the heavy increase in wages and the low return estimated on the stock, it is not unreasonable to allow some margin, nor is it unreasonable to make the differentiation between the lines in accordance with traffic density which this plan provides. The rate per mile would average less than $2\frac{1}{2}$ cents, which is the rate recently approved for all the interurban electric lines of Indiana and lower than the present single-ticket rate upon all steam railroads.

The further question, however, of whether this plan, or the 7-cent fare plan urged by the remonstrants should be adopted, we feel is a matter of opinion upon which the Commission ought not to interfere with the judgment of the management. Neither plan will give the company excessive profits, and neither can fairly be attacked on the ground of unjust discrimination. The mileage zone system has been approved by the Commission in other cases as an equitable method of charging and, while there are inequalities in the existing system, it has the sanction of custom and usage. On paper, the 7-cent fare would provide less revenue, but in reality it might prove of greater financial benefit. This, however, cannot be demonstrated in advance of actual experience, and resolves itself into a question of personal opinion.

Upon the evidence, the Commission is inclined to believe that it would be good judgment, in the case of this particular road, to try the 7-cent fare. A friendly community is a better asset for a street railway company than an anticipated gain in revenue which, however reasonable it may be, is still largely a matter of uncertain speculation. However, the local management is better able to judge this question of expediency than we are, and it is right and proper, under the circumstances, that it should have the opportunity to do so. The towns which the company serves ought not to forget that they have been receiving service at less than cost, including a reasonable profit to the stockholders, ever since the road began operation, and they ought not to oppose any plan which is likely to increase its prosperity and enable it to secure the credit which it will presently need. If the company, therefore, files a supplemental schedule modifying the tariff now on file in the manner indicated in Plan III, or cancels this tariff and substitutes a new schedule providing for a straight 7-cent fare, either of these changes will be approved by the Commission and will be allowed to take effect upon short notice.

It should be added that, in case the zone system is adopted and any complaint arises in regard to the location of zone limits, the Commission reserves the right to receive and adjust such complaints without prejudice.

For the Commission,

ANDREW A. HIGHLANDS,

JULY 15, 1918. [P. S. C. 2102]

Secretary.

MILFORD AND UXBRIDGE FARES.

Notice of the Milford and Uxbridge Street Railway Company of proposed increase in passenger fares upon its railway.

WENDELL WILLIAMS }
 MAXHAM E. NASH } for Milford and Uxbridge Street Railway
 WALTER L. ADAMS } Company.

FREDERICK H. HILTON for Town of Framingham.

WILLIAM B. KINGSBURY }
 JOHN B. KEARNS } for Town of Holliston.

W. W. ALLENDORF }
 A. L. SAUNDERS } for Town of Medway.

JOHN C. LYNCH for Town of Milford.

WILMOT R. EVANS, Jr., for Town of Westwood.

On August 9, 1917, the Commission authorized the Milford and Uxbridge Street Railway Company to increase the unit of cash fare on all owned lines from 5 cents to 6 cents, to withdraw existing reduced-rate tickets and to substitute workmen's tickets at the rate of 5 cents each (20 tickets for a dollar) good in all zones during certain hours only, in lieu of a cash fare, and to issue tickets for one dollar good during all hours for 10 continuous rides over the two fare zones between Holliston and Framingham (5 P. S. C. Rep., p. 125).

The essential facts in regard to the past financial and operating history of the company are set forth in the report accompanying the order in that case. The Commission found that the stock and bonds and the larger part of the notes payable, then amounting to \$53,500, represented honest and reasonably prudent investment, that the company was entitled to a 6 per cent dividend on its stock and interest charges on the bonds and notes included in such investment, and might, as a conservative estimate, lay aside annually not less than \$17,230 for depreciation. Based upon the company's return for the year ended December 31, 1916, showing net income of \$28,811.30, the Commission found that the company was entitled to the additional income of \$31,052 which it expected to realize from the proposed increase of fares.

The fares then allowed went into effect August 19, 1917. Failing to realize the increase in net revenue anticipated from this increase in fares, the company, on June 29, 1918, filed a new sched-

ule substituting for its present system of irregular and overlapping zones, averaging about 4 miles in length, a mileage zone system on all owned lines, similar to that recently approved by the Commission for the Boston and Worcester Street Railway Company (P. S. C. Docket No. 2178). Under this system the road is divided into sections about one mile in length and a rate of 2½ cents per zone with a minimum fare of 6 cents for a distance of three zones or less is established. On the leased line of the Medway and Dedham Company the existing fare zones are retained, but the present 5-cent unit of fare is increased to 6 cents on the section of the line between Dedham and Medway, and to 7 cents on the section between Medway and Franklin. The 5-cent ticket rate through the sale of workingmen's tickets is retained, and each ticket is good during the same hours in lieu of the proposed 6-cent minimum cash fare on all owned lines, and in lieu of the 7-cent cash fare on the Medway-Franklin section of the Medway and Dedham line.

In order to determine the amount of additional gross revenue to which the company is entitled the following table is submitted, showing the comparative income record of the company for the years ended December 31, 1916, and June 30, 1918, together with the company's estimate for the year ending June 30, 1919, assuming no change in the present fares: —

	YEAR ENDING —			
	December 31, 1916.	December 31, 1917.	June 30, 1918.	June 30, 1919.
<i>Operating Revenues.</i>				
Passenger revenue,	\$252,867	\$269,288	\$278,480	\$286,317
Revenue from Grafton and Upton Railroad, ¹	29,855	29,491	28,168	28,168
Miscellaneous revenue, ²	4,304	5,850	4,463	3,468
Total operating revenue, ³	\$287,026	\$304,629	\$311,111	\$317,853
<i>Operating Expenses.</i>				
Maintenance expenses,	\$49,129	\$50,175	\$56,662	\$56,662
Depreciation,	8,679	4,935	8,684	17,230
Net power expense, ⁴	50,236	69,200	61,867	61,467
Conducting transportation,	85,318	94,081	96,062	111,148
Traffic and general and miscellaneous,	25,572	24,382	24,971	27,930
Total operating expenses, ³	\$214,434	\$242,773	\$248,246	\$274,457
Taxes and fixed charges,	\$43,780	\$43,822	\$49,690	\$57,376
Net income,	\$28,812	\$18,034	\$13,175	\$13,980 ^d
Revenue passengers carried,	5,307,233	5,334,863	5,152,941	—

¹ In the company's return for the year ending December 31, 1916, this item is not shown, but the expense accounts are arbitrarily reduced by an equivalent amount. The figures have been readjusted in conformity with the latest form of return, so as to show the receipts from this source and the actual operating expenses for the entire system.

² Exclusive of receipts from sale of power.

³ Crediting receipts from sale of power.

^d Deficit.

The report of the Commission in the last fare case was based upon the figures for the year ended December 31, 1916. For the present case, the latest figures available are those for the year ended June 30, 1918, which includes a period of a little more than 10 months under the present system of fares. If these fares had been in effect during the entire year, the company estimates that the passenger revenue would have shown an increase of \$7,737 over the amount actually received, and its estimate of passenger revenue for the year ending June 30, 1919, is made upon that basis. It appears, therefore, that the passenger revenue, as a result of the fare increase already allowed, has shown an increase at the rate of \$34,350 a year, as compared with the revenue for 1916, in spite of a decrease of about 3 per cent in the number of revenue passengers. The estimated increase of \$31,032 in gross revenue has thus been exceeded by more than 7 per cent, a noteworthy result in view of the fact that the revenue results from other rate increases allowed by the Commission have in almost every case fallen far short of the anticipations of the companies.

This increase has, however, been more than offset by increases in operating expenses and fixed charges during the same period. Maintenance expense, mainly on account of increased motor repairs and snow expense due to weather conditions last winter, increased about \$7,500; the depreciation allowance has been increased by about \$5,000, but the total is only one-half the amount approved in the former rate case by the Commission as the minimum requirement; the power expense, by reason of the increased cost of coal and a decrease in the amount of power sold to the Milford Electric Light Company at a profitable rate, shows an increase of about \$10,600; transportation expense, as the result of increased wages, shows an increase of about \$10,000; and taxes and fixed charges have increased by about \$5,900, chiefly as a result of the maturity of the company's 5 per cent bonds on January 1, 1918, and the necessity of extending them on a 7 per cent basis. As a result of these and other increased expenditures unavoidably incurred, the net income of the company, instead of showing an increase, has fallen off during the present year more than \$15,000, as compared with the year ended December 31, 1916.

The estimates of expense submitted by the company for the ensuing year show a further increase of substantial amount in several of the expense accounts. Maintenance charges are placed at the same figure as last year, but an allowance of \$17,230 is

made for depreciation in conformity with the finding of the Commission in the former rate case. At that time the company's maintenance accounts showed an expenditure of \$49,129, so that maintenance and depreciation requirements combined amounted to \$66,359 as compared with the company's estimate of \$73,892 for the ensuing year. As the estimate made for depreciation in the former rate case seemed to the Commission to represent a minimum rather than a maximum provision, and as the price of labor and materials has advanced, the company's estimate of future maintenance and depreciation requirements could hardly be regarded as excessive for a prosperous company in normal times. It is to be observed, however, that the maintenance expense for last year, on account of weather conditions, was in excess of normal requirements. Moreover, as this account has not been checked, it is possible that certain renewals which might properly be regarded as a depreciation charge, have been included in the maintenance account, and in any event, it is doubtful whether street railway companies may reasonably expect to provide for maximum depreciation requirements under present war conditions. It seems to us, therefore, that \$70,000 would be a reasonably adequate allowance for maintenance and depreciation charges.

Since July 12 of this year the company has ceased to manufacture its own power, and is purchasing it from the New England Power Company at some saving in expense. It will, however, be deprived of its profits from the sale of power to the Milford Electric Light Company, as the latter company also is now obtaining its power from the New England Power Company. Based upon the power consumption of last year, the net saving to the company will be only \$380. It is possible that some saving in power may result from the adoption of the recommendation of the New England Fuel Administrator requiring a general reduction in the number of stopping places upon the lines of street railway companies, but on an interurban road of this character where the stops are now widely spaced, the saving would not be substantial.

The estimated cost of conducting transportation is based upon a wage increase in the maximum rate from 34 cents to 39½ cents per hour, effective July 1, 1918, and the prospect of a further increase about November 1, 1918, to 43 cents per hour, the rate recently approved by Mr. Henry B. Endicott, Executive Manager of the Public Safety Committee, for the Worcester Consolidated Street Railway Company. As the result of a 10 per cent increase

in fire insurance rates and the automatic increase of compensation insurance on account of the increase in wages, the company's general and miscellaneous expense for next year, if other items remain the same, will show an increase of \$2,959 over last year's figure. For reasons which need not here be detailed certain small increases in other minor items may be anticipated.

Taxes and fixed charges for next year will also show a substantial increase. The increase in taxes, according to the company's estimate, will amount to \$1,156. As the company has expended since January 1, 1918, over \$33,000 for the installation of power plant machinery required for the conversion into direct current of the alternating current purchased from the New England Power Company, and as this expenditure is represented in part by an increase in short-time notes from \$51,000 to \$77,969, the interest charge on floating debt next year will show an increase of \$1,530. Last year the interest rate on outstanding bonds was 5 per cent for six months and 7 per cent for six months, whereas the rate hereafter will be 7 per cent for the entire year, thus increasing the interest charge on funded debt by \$5,000.

The estimates filed by the company have all been carefully checked, and appear to be reasonable, except for the items of maintenance and depreciation, which should, in our opinion, be reduced to an aggregate amount of \$70,000, as explained above. The total sum necessary for operating expenses and fixed charges will, therefore, on a reasonable estimate, amount to \$327,941. As an additional sum of \$26,400 would be needed to pay a dividend of 6 per cent on the capital stock, the total revenue requirements of the company would amount to \$354,341. As the total operating revenues for next year on the basis of present rates and traffic would amount to \$317,853, as shown in the table filed above, the company is reasonably entitled to an increase of rates which will yield an additional revenue of \$36,488.

The company has also submitted an estimate of the increase in revenue which would be likely to accrue from the rate increases proposed. Under the mileage zone system on the company's owned lines, passengers would be able to ride a distance of approximately 3 miles for the present 6-cent fare, and the entire increase of revenue would be contributed by the long-distance riders, who constitute, according to the company's estimate, about 55 per cent of the total travel. The company also estimates that the average increase for such passengers would be about 20 per cent, and that the total increase of revenue from its owned lines,

upon the basis of present traffic, would amount to \$25,636.68 a year. While it is exceedingly difficult to make any accurate forecast of the revenue results from the establishment of an entirely different fare system, and while the company's estimate can be regarded as approximate only, it appears to have been carefully made upon the basis of traffic counts, and seems to be as nearly reliable as any estimate that can now be made.

On the Medway and Dedham leased line it should be possible to make a closer estimate of the probable increase in revenue. On the Medway-Franklin section of the line the company estimates that 25 per cent of the passengers now paying a 5-cent cash fare would use the proposed 5-cent workmen's tickets, good during certain hours only, and that the remainder would pay the 7-cent cash fare. This is equivalent to a uniform $6\frac{1}{2}$ -cent rate, or an increase of $1\frac{1}{2}$ cents over the present fare on this section of the line. In the Medway-Dedham section there would be a straight increase of 1 cent per passenger. For the year ended June 30, 1918, there were 133,240 cash passengers between Medway and Franklin and 713,159 between Medway and Dedham. The comparative figures for the year ended June 30, 1917, were 174,642 and 698,570 respectively. The decrease of travel in the Medway-Franklin section, amounting to over 23 per cent, was due largely to the abnormal weather conditions of the past winter, which necessitated the closing of the line for a period of three months. The company has estimated a further decrease of 5 per cent in this travel, but even with an increase in rates it does not seem likely that the travel for the ensuing year would fall below last year's figure. On the Medway-Dedham section the company has also estimated a 5 per cent decrease in travel, but as last year's travel showed some increase over the year before, and as the proposed increase is about the same as that allowed last year on the lines owned by the company, it seems to us that an estimate might reasonably be made upon the basis of a similar decrease of about 3 per cent in passenger traffic. Upon this basis the increase of revenue on the entire Medway and Dedham line would amount to \$8,916.24.

In addition to operating its own lines and the leased line of the Medway and Dedham Company, the Milford and Uxbridge Company has an arrangement with the Grafton and Upton Railroad Company under which it supplies the power, cars and car employees for the transportation of passengers on the latter road, and receives a designated portion of the total passenger receipts.

As the result of increases recently made in railroad passenger rates, the fares for one-way passengers on the Grafton and Upton road are now at the rate of 3 cents a mile. The increased compensation received under the Grafton and Upton contract since June 10, 1918, when the 3-cent rate became effective, if computed on the basis of a full year's travel, would amount to \$4,551. If these various estimates are reasonable, the increase of revenue for the entire Milford and Uxbridge system under the fares proposed and those recently made effective for the Grafton and Upton railroad, would amount to \$39,103.92, which is \$2,615 in excess of the amount to which we have found that the company is entitled.

Irrespective of the question as to whether the schedule of rates proposed by the company would yield an excessive amount of revenue, the representatives of the various communities who appeared at the hearing were practically unanimous in their opposition to the establishment of a mileage zone system as a method of obtaining additional revenue, largely because it seemed to impose a disproportionate burden upon long-haul riders. The need of additional revenue was generally recognized and the view was generally expressed that if the Commission found that the company was entitled to higher rates there would be little opposition to an increase of one cent in the present fares on all owned lines if the existing fare zones were retained. No opposition was offered to the schedule proposed for the Medway and Dedham line, which was substantially upon that basis. In a brief filed subsequent to the hearing by counsel for the town of Framingham a preference was expressed for the mileage zone system, but that view was not strongly urged, and appeared in large measure to be contingent upon the extension of the terminus of zone 6 under the mileage zone plan from Holliston square to Highland street in the town of Holliston. The company stated that an increase of the cash fare on its owned lines from 6 cents to 7 cents and of the workingmen's tickets from a 5-cent to a 6-cent rate would yield approximately the same amount of revenue as the mileage zone plan proposed, and that it was indifferent as to which plan should be adopted.

A similar situation arose in the recent rate case of the Milford, Attleborough and Woonsocket Street Railway Company, except that the company at the time of the hearing expressed a preference for the mileage zone system, largely because it seemed likely in that case to yield a larger revenue (P. S. C. 2102). In its re-

port in that case the Commission, after a brief discussion of the relative merits of the two plans, and largely because of the advantage to the company of preserving friendly relations with the communities it served, recommended that the company adopt a straight fare increase to 7 cents, rather than a mileage system, and this recommendation has been followed by the company. It seems to us that owing to similar considerations in the present case, a straight increase of fare on all owned lines, as suggested by the remonstrants, is preferable to the fare plan suggested by the company.

If we assume the same decrease in riding during the year ending June 30, 1919, as in the year ended June 30, 1918, the increase in revenue on the basis of one cent additional for passengers paying a cash fare or using workingmen's tickets, would amount to \$33,122.94. As the schedule for the Medway and Dedham line and the compensation from the Grafton and Upton Railroad would remain the same, the total estimated increase in revenue, if this alternative were adopted, would amount to \$46,590.18, which is about \$10,000 in excess of the sum to which the company appears to be entitled.

We are therefore of the opinion that some reduction in the rates suggested is reasonable, and that the benefit of such reduction should be given to those using the workingmen's tickets and the special Holliston-Framingham tickets by the sale of workingmen's tickets at the rate of 18 for \$1, instead of 20 for \$1.20, on all owned lines of the company, and by the sale of tickets good for 9 continuous rides by local passengers between Framingham depot and Highland street, Holliston, or intermediate points, for \$1, good only for the original purchaser or members of his family. If this modification were made, the estimated increase in revenue from the entire system would be reduced to \$43,100, but would still be \$6,612 in excess of the apparent revenue requirements of the company.

It is to be remembered, however, that these figures are based upon estimates of increased revenue that must be largely speculative, and that such estimates in other rate cases, however carefully they may have been made, have usually been substantially in excess of the actual revenue results. Moreover, the estimates made in this case are based upon the past experience of the company, which cannot be accepted as a safe guide for the future, in view of the changed conditions which are likely to result from the extension of the draft age, the employment of a large part of

the able-bodied male population in active military service, and changes in the modes of life of all our people which are likely to result from our participation in the war on a vastly increased scale. As changes of this character are likely to have a direct effect upon local transportation, estimates of increased revenue based upon past conditions should show a substantial margin over demonstrated revenue requirements. We are therefore of the opinion that, if the fares of the company are established upon the basis recommended herein, the company would not receive more than a legitimate return on its investment. An order will therefore be entered, cancelling the rates and charges stated in the schedule filed by the company, but the company will be allowed to file a new schedule embodying the changes recommended in this report, and such schedule will be allowed to become effective on short notice.

ORDER.

It appearing that on July 24, 1918, an order was issued suspending until September 1, 1918, the rates and charges stated in the schedule described in said order; and

It further appearing that a full investigation of the matters and things involved has been had, and that the Commission on the date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, —

It is

Ordered, That the Milford and Uxbridge Street Railway Company be and hereby is notified and required to cancel the rates and charges stated in the schedule specified in said order of suspension.

It is

Further ordered, That a copy of this order be filed with said schedule at the office of the Commission and a copy hereof be forthwith served upon the Milford and Uxbridge Street Railway Company.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

AUGUST 22, 1918. [P. S. C. 2209]

NEW BEDFORD, MARTHA'S VINEYARD AND NANTUCKET RATES.

Notice of proposed change in local freight rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company.

Notice of proposed change in joint freight rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company.

F. A. FARNHAM for the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company.

FRANKLIN E. SMITH for the Nantucket Cranberry Company, the Nantucket Land Trust and Cape Cod cranberry distributors.

The tariffs under suspension were issued by the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company on May 15, 1917, to become effective on June 18, 1917. Upon complaint they were suspended, pending investigation and a hearing, to August 1, 1917, and by subsequent orders to May 1, 1918. The delay in reaching a decision has in part been due to delay of the companies in furnishing information within their possession requested by remonstrants.

The New Bedford, Martha's Vineyard and Nantucket Steamboat Company owns three steamships which carry freight and passengers between New Bedford and Woods Hole, on the mainland, and the islands of Martha's Vineyard and Nantucket. It has \$141,700 of stock outstanding and no bonds or floating debt, and the entire capital stock is owned by the New York, New Haven and Hartford Railroad Company. Operation is supervised by practically the same officers as direct the affairs of the New England Steamship Company, the corporation through which the New York, New Haven and Hartford Railroad Company owns and controls the so-called "Sound Lines," operating between various ports on Long Island Sound and New York City.

The change proposed in the local port to port rates is shown by the following table of class rates. Group B rates apply between New Bedford or Woods Hole and Nantucket, and Group A rates between all other landings.

Class Rates.

[In cents per 100 pounds.]

	1	2	3	4	5	6
<i>Group A.</i>						
Proposed,	21	19	15	12	10	9
Present,	16	14	13	10	8	7
Difference,	5	5	2	2	2	2
Per cent increase, . . .	31	36	15	20	25	28
<i>Group B.</i>						
Proposed,	25	23	18	14	11	10
Present,	20	16	15	12	10	9
Difference,	5	7	3	2	1	1
Per cent increase, . . .	25	44	20	17	10	11

About fifty articles have been given special commodity rates and it is proposed to advance these also, the percentage varying from 6½ per cent in the case of clams and quahogs, which are important products of the islands, to 140 per cent in the case of crated bicycles. Apparently the increase on these commodities has been adjusted largely to "what the traffic will bear."

The other tariff under suspension would cancel the present joint class rate and commodity tariff between the islands and about 35 points located on the New Haven railroad in eastern Massachusetts, including Boston, making the through rate equal to the combination of the locals. In the case of class rates to and from Boston the change would be as follows:—

Class Rates.

[In cents per 100 pounds.]

	1	2	3	4	5	6
<i>Boston-Martha's Vineyard.</i>						
Proposed,	44	38.5	31	24.5	19	17
Present,	28	24.0	21	20.0	18	17
Difference,	16	14.5	10	4.5	1	—
Per cent increase, . . .	57	60.0	48	23.0	5	—
<i>Boston-Nantucket.</i>						
Proposed,	48	42.5	34	26.5	20	18
Present,	30	26.0	23	21.0	19	18
Difference,	18	16.5	11	5.5	1	—
Per cent increase, . . .	60	63.0	48	26.0	5	—

The "proposed" rates in this table are formed by adding to the existing local rates of the railroad company between Boston and New Bedford the proposed local rate of the steamboat company between New Bedford and Martha's Vineyard or Nantucket. Application, however, has been made by the railroad company in other proceedings to increase its own local rates, and an increase on interstate traffic has been approved by the Interstate Commerce Commission under date of April 16, 1918. If a like increase is approved for intrastate traffic, the through rate between Boston and the islands would still further be increased beyond the point shown in the above table, as follows:—

Class Rates.

[In cents per 100 pounds.]

	1	2	3	4	5	6
<i>Boston-Martha's Vineyard.</i>						
Proposed,	52.5	46	36	28	21	18
Present,	28.0	24	21	20	18	17
Difference,	24.5	22	15	8	3	1
Per cent increase, . . .	88.0	92	72	40	17	6
<i>Boston-Nantucket.</i>						
Proposed,	56.5	50	39	30	23	19
Present,	30.0	26	23	21	19	18
Difference,	26.5	24	16	9	3	1
Per cent increase, . . .	88.0	92	70	43	16	6

Based on a test study of the traffic in three representative months of the year, the company estimates that the increase in rates would net about \$10,400 on the port to port traffic and about \$2,800 on the joint traffic, a total of about \$13,200. This is an average increase of less than 16 per cent and seems low, in view of the figures already given showing the percentage in the various class and other rates. It can only be accounted for by a preponderance of traffic like fish, where the increase is slight. Changes in interstate rates covering chiefly traffic to and from New York City, Providence and Pawtucket, which have already gone into effect, are estimated to yield about \$3,000 additional revenue per year.

The New Bedford, Martha's Vineyard and Nantucket Steamboat Company has been in existence for many years. It was the result of a consolidation, authorized by special act of Massachusetts (St. 1886, c. 8), of the New Bedford, Vineyard and Nan-

tucket Steamboat Company and the Nantucket and Cape Cod Steamboat Company. These were both Massachusetts companies, incorporated, respectively, in 1854 and 1855. Control was acquired by the railroad company through its subsidiary, the New England Navigation Company, in 1910. In connection with the investigation of the "capital expenditures, investments and existing contingent liabilities of the New York, New Haven and Hartford Railroad Company," made by this Commission in 1915-1916, counsel for the railroad company stated that the "purchase was not made by the New Haven on account of any desire to extend its own activities, but because the purchase was urged upon us by those who were then endeavoring, somewhat unsuccessfully, to run the property." However that may be, it seems to be true that the physical condition of the property has been improved since the acquisition, and that until very recently the earnings showed a similar improvement.

In 1910 the company owned four steamboats. Since then one new boat has been acquired and two of the old boats have been sold. Dividends on the stock have been paid as follows: —

	Rate (Per Cent).
1910,	6
1911,	—
1912,	—
1913,	6
1914,	10
1915,	10
1916,	10
1917,	—

In the years from 1913 to 1916, inclusive, earnings were so good that in addition to paying 10 per cent dividends, the company rolled up a surplus which amounted, on December 31, 1916, to \$213,168.89. While 1917 was a poor year and resulted in a reduction of surplus, nevertheless at the end of that year it amounted to \$192,306.53, without including a depreciation reserve of \$48,950. The surplus alone equaled 135.7 per cent of the outstanding capitalization, while surplus and depreciation reserve together came within \$5,000 of equaling the total book value of permanent property.

The need for additional revenue is based upon the results from operation in recent months. In the year ended December 31, 1917, the company failed to earn operating expenses by \$18,248.12. This was due to a decrease in revenue, in comparison

with the previous year, of \$16,974.94, and an increase in operating expense of \$45,469.57. Traffic and revenue were less, indeed, than they were in 1915, as the following table shows: —

	1915.	1916.	1917.
Passenger revenue,	\$126,444 84	\$136,750 03	\$129,372 37
Freight revenue,	96,359 84	94,059 23	83,384 91
Other revenue from transportation,	31,496 86	31,634 03	32,261 14
Revenue from other operations,	1,945 03	2,304 52	2,754 45
Total transportation revenue,	\$256,246 07	\$264,747 81	\$247,772 87

This falling off seems to have been due largely to the decrease in the summer business caused by the appearance of the German submarine off Nantucket and also to the poor cranberry crop. The rise in operating expense in the same period is shown by the following table: —

	1915.	1916.	1917.
Maintenance of equipment,	\$38,466 53	\$42,184 36	\$49,987 31
Maintenance of terminals,	22,587 83	9,478 11	21,611 02
Traffic expenses,	2,784 54	2,890 51	3,273 50
Transportation expenses,	101,238 06	124,961 05	150,914 51
Operation of terminals,	14,910 19	19,759 37	23,870 82
Charter expenses,	5,523 90	8,107 98	—
General expenses,	15,168 49	13,170 04	16,363 83
Total operating expenses,	\$200,724 54	\$220,551 42	\$266,020 99

The increase in expense has been caused chiefly by advanced wages and the rise in the cost of fuel. The mileage covered by the boats in 1917 was slightly less than in 1915. Coal cost \$56,207, as compared with \$31,951, and transportation and terminal wages increased from \$51,707 to \$73,828. The total increase for fuel and these wage items amounted to \$46,377. In 1912 coal cost \$3.68 per ton, in 1916, \$4.49, and in 1917, \$7.21. During the current year the price may average even higher. The expense in 1917, however, was further increased by an expenditure of about \$21,200 in rebuilding the wharf at New Bedford. Similar expense was incurred in 1915 when the terminal property at Nantucket was rebuilt, but such reconstruction charges are abnormal and are not likely to recur in the immediate future. Some income,

also, was lost during the year by the failure to reinvest \$120,000 of surplus funds which were invested in notes of the New England Navigation Company until these were paid off on May 1, 1917.

Summing up this phase of the matter, the company failed, in 1917, to earn operating expenses and fixed charges by \$20,856.68. To make good this deficiency, pay dividends of 7 per cent upon its stock and increase its surplus account by \$10,000, in addition to the \$8,950 which was reserved for depreciation, about \$40,000 additional revenue would have been needed. In making this computation, allowance is made for the risk of the enterprise, the liability to fluctuations in amount of traffic, the low capitalization in comparison with the cost of the permanent property, and the fact that the company, owing to its association with the New Haven railroad, secures the services of executive officers practically without charge.

Assuming, then, that the 1917 operations showed a just and reasonable need of about \$40,000 additional net income, does it follow that the tariffs now under suspension should be permitted to become effective? In considering this question, every means by which this net income may be secured must be given due weight. The table presented above shows that the company obtains more revenue from passenger than from freight traffic. Recently it filed with the Commission a tariff substantially increasing summer excursion rates between various points on the mainland and the islands, and also making certain increases in the local summer passenger rates from port to port, and this tariff has gone into effect. Predicated upon last year's sales, it is estimated by the passenger department that this new tariff will produce about \$16,000 increase in revenue for the steamboat company.

This change, it will be seen, reduces the amount of additional net income needed from \$40,000 to about \$24,000. As above shown, however, in 1917 about \$21,000 was expended on the wharf at New Bedford, and there seems no reason to anticipate a similar expenditure in 1918. Some additional income might also be obtained from the investment of a substantial portion of the surplus funds. Furthermore, if traffic, which fell off because of unusual events in 1917, should return to normal volume in 1918, this in itself would go far to make good the deficiency, without allowing for the items just mentioned. Under the circumstances it does not seem to the Commission that the need for the increase in freight rates embodied in the tariffs under suspension has been clearly demonstrated by the evidence so far submitted.

We are the more ready to accept this conclusion because it does not appear that the changes in freight rates proposed are particularly well considered. All the "Sound Lines" operated by the New England Steamship Company enjoy joint rates with the railroad company. There may be a good reason why the through rate should be made by combining the local rates in the case of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company, and not in the case of the New England Steamship Company, but if there be such a reason the Commission has not been given the benefit of it.

Criticism may also be made of the local port to port class rates. In New England, coastwise steamship freight rates are quite generally made on the same basis as railroad freight rates. Railroads throughout the country have frequently made rates to meet water competition, but here the reverse seems to be true, and the water rates are made to conform to the general railroad level. Coastwise transportation is largely in the hands of two companies, the New England Steamship Company and the Eastern Steamship Corporation. The former is in the control of the New Haven railroad, but the latter is now apparently independent, although the railroad has had a substantial voice in its affairs in the past. Both companies, however, have adopted substantially the same rate structure as the New England railroads.

Under these circumstances, it is somewhat difficult to determine the basis upon which steamship rates should normally be constructed. The present class rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company are, on the whole, higher than the existing class rates of the railroad companies and the two large steamship companies above mentioned, as the following table shows: —

Class Rates.

	1	2	3	4	5	6
Woods Hole to Oak Bluffs (8½ miles): —						
Present boat rates, . . .	16.0	14.0	13.0	10.0	8.0	7.0
Railroad rates, similar distance, . . .	12.5	10.5	9.0	.7	4.5	4.5
New Bedford to Oak Bluffs (25 miles): —						
Present boat rates, . . .	16.0	14.0	13.0	10.0	8.0	7.0
Railroad rates, similar distance, . . .	16.0	14.0	11.5	9.0	7.0	6.0
Woods Hole to Nantucket (38½ miles): —						
Present boat rates, . . .	20.0	16.0	15.0	12.0	10.0	9.0
Railroad rates, similar distance, . . .	19.5	16.0	14.0	10.5	8.0	7.0
New Bedford to Nantucket (54½ miles): —						
Present boat rates, . . .	20.0	16.0	15.0	12.0	10.0	9.0
Railroad rates, similar distance, . . .	23.0	19.5	16.0	12.5	9.0	8.0

While a substantial increase in the class rates of the railroad companies has recently been approved by the Interstate Commerce Commission and similar applications are pending before the various state commissions, it does not appear that the other steamship companies have as yet sought a corresponding increase. The proposed rates for the Steamboat Company contrast with the new railroad rates approved by the Interstate Commerce Commission as follows:—

Class Rates.

	1	2	3	4	5	6
Woods Hole to Oak Bluffs (8½ miles):—						
Proposed boat rates,	21.0	19.0	15.0	12.0	10.0	9
New railroad rates, similar distance,	22.0	18.5	14.5	11.0	7.5	6
New Bedford to Oak Bluffs (25 miles):—						
Proposed boat rates,	21.0	19.0	15.0	12.0	10.0	9
New railroad rates, similar distance,	25.0	21.5	17.0	13.0	9.0	7
Woods Hole to Nantucket (38½ miles):—						
Proposed boat rates,	25.0	23.0	18.0	14.0	11.0	10
New railroad rates, similar distance,	29.0	24.5	19.5	14.5	10.0	8
New Bedford to Nantucket (54½ miles):—						
Proposed boat rates,	25.0	23.0	18.0	14.0	11.0	10
New railroad rates, similar distance,	31.5	27.0	21.0	16.0	11.0	9

It further appears that while the New Bedford, Martha's Vineyard and Nantucket Steamboat Company has adopted the railroad official classification of commodities and bases its class rates upon this classification, the percentage relationship between the classes differs in the case of the present Group A and Group B rates, differs still more in the case of the proposed rates, and does not, in any instance, conform to the relationship now in effect upon the New England railroads and the larger steamship lines, nor to the relationship prescribed by the Interstate Commerce Commission in approving a scale of class rates for Central Freight Association territory and followed in its recent decision upon New England rates. This is shown by the following table:—

	CLASSES.					
	1	2	3	4	5	6
New England railroad,	100	85.0	70.0	55.0	40.0	33
Interstate Commerce Commission—Central Freight Association,	100	85.0	67.0	50.0	35.0	28
<i>New Bedford, Martha's Vineyard and Nantucket.</i>						
Present Group A rates,	100	87.5	81.0	62.5	51.0	44
Proposed Group A rates,	100	90.5	71.5	57.0	47.5	43
Present Group B rates,	100	80.0	75.0	60.0	50.0	45
Proposed Group B rates,	100	92.0	72.0	56.0	44.0	40

There is no inherent reason why a steamship company should charge the same rate as a railroad, but if it bases its rate structure upon the official railroad classification of commodities there would seem to be sound reason for scaling its class rates in accordance with recognized railroad practice, and certainly it is indefensible to scale Woods Hole-Oak Bluffs rates in one way and Woods Hole-Nantucket rates in another.

Summing the matter up, it seems to the Commission that the evidence submitted leaves in doubt the necessity for increasing the freight rates of this steamboat company. The company has been so fortunate in recent years in earnings over and above a generous return upon the investment, accumulating a surplus which is in excess of its entire capitalization, that no hardship is imposed by compelling it to demonstrate more clearly in actual experience that an advance is just and reasonable. We realize, however, that conditions are abnormal, and that experience in 1918 may well furnish the necessary evidence, and possibly it is already at hand. If this be the case, the company is at entire liberty to renew its application at any time without prejudice, and to show by further evidence that increases are justifiable. If this is done, however, it is the present opinion of the Commission that joint rates should be maintained between the islands and points on the New York, New Haven and Hartford railroad in Massachusetts and that there is no good reason for basing the through rates in such cases upon a combination of the locals. Furthermore, any new port to port class rates which are proposed should be constructed upon a more systematic and less arbitrary basis than those which are set forth in the tariffs under suspension.

ORDER.

Notice of proposed change in local freight rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company.

Notice of proposed change in joint freight rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company.

It appearing that the Commission, by an order dated June 29, 1917, entered upon an investigation in the matter of the proposed change in local class and commodity freight rates of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company, as set forth in a tariff numbered New Bedford, Martha's Vineyard and Nantucket Steamboat Company M. P. S. C. No. 22, issued May 15, 1917, to become effective July 1, 1917;

and in the matter of the proposed change in joint class and commodity freight rates between certain points on the New York, New Haven and Hartford railroad and boat landings of the New Bedford, Martha's Vineyard and Nantucket Steamboat Company, as set forth in a tariff numbered Supplement No. 1 to New York, New Haven and Hartford Railroad Company M. P. S. C. No. 522, and Supplement No. 1 to New Bedford, Martha's Vineyard and Nantucket Steamboat Company M. P. S. C. No. 18, issued May 15, 1917, to become effective July 1, 1917; and that the tariffs so described were suspended by orders of the Commission until May 1, 1918, and

It further appearing that a full investigation of the matters and things involved has been had and that the Commission on the date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof, — it is

Ordered, That the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company be hereby notified and required to cancel on or before May 1, 1918, the above described tariffs.

And it is

Further ordered, That a copy of this order be filed with said tariffs at the office of the Commission and that a copy hereof be forthwith served upon the New Bedford, Martha's Vineyard and Nantucket Steamboat Company and the New York, New Haven and Hartford Railroad Company.

By the Commission,

ANDREW A. HIGHLANDS,

APRIL 30, 1918. [P. S. C. 1808, 1809]

Secretary.

NEW BEDFORD AND ONSET RATES.

Notice of the New Bedford and Onset Street Railway Company of proposed increase in rate of fare for passengers upon its railway.

ELTON S. WILDE } for New Bedford and Onset Street Railway
GEORGE P. DOLE } Company.
GEORGE B. CRAPO }
WILLIAM H. COBB } for Town of Marion.
CHARLES W. RIPLEY }

On May 29, 1918, the New Bedford and Onset Street Railway Company filed with the Commission a schedule of proposed increases of fares effective June 30, 1918. A public hearing was held on July 10, 1918, and the schedule was suspended until August 10, 1918.

The cash fare on all lines of the company was formerly 5 cents, with a ticket rate of $4\frac{1}{2}$ cents (24 tickets for a dollar). In 1915 the company filed a new schedule increasing the cash fare to 6 cents and the ticket rate to 5 cents (20 tickets for a dollar). In its report and order in that case, under date of September 8, 1915, the Commission, after a review of the financial and operating history of the company, found that the company was entitled to a return upon the investment represented by the outstanding stock and bonds; that the maintenance charges were not excessive; that inadequate provision had been made for depreciation; and that there was no reasonable prospect of an increase in net earnings through a reduction in operating expenses, except in so far as the power cost might be reduced under a contract for the purchase of power which the company had recently entered into (3 P. S. C. Rep., p. 89). At that time the company's net income, as shown in its return for the year ended June 30, 1915, was \$8,353.95, or nearly \$25,000 less than the amount necessary to pay a 6 per cent dividend on its capital stock. Upon these facts the Commission permitted the schedule filed by the company to become effective and the new rates went into operation on October 2, 1915. As the revenue results under these increased rates proved disappointing, the company, in 1917, filed a new schedule, leaving the cash fare at 6 cents but eliminating the re-

duced-rate tickets. On August 24, 1917, the Commission issued a report and order approving this further change and, since September 3, 1917, the fares have been on a straight 6-cent basis (5 P. S. C. Rep., p. 125). The company now claims that its income is still insufficient, and has filed a schedule calling for a cash fare of 7 cents, with a ticket rate of 6 cents upon certain designated portions of its lines.

Since June 30, 1915, and up to December 31, 1917, the company's permanent investment, as shown by its books, has been increased by \$19,264.51. The income record from the year ended June 30, 1915, to the year ended June 30, 1918, is as follows: —

New Bedford and Onset Street Railway Company.

YEAR ENDED —	Regular Fare Passengers.	Passenger Revenue.	Total Operating Revenues. ¹	Net Power Cost. ²	Operating Expenses. ²	Taxes and Fixed Charges.	Net Income.
June 30, 1915,	2,726,404	\$127,226 52	\$151,541 20	\$21,114 74	\$114,743 68	\$28,443 57	\$8,353 95
June 30, 1916,	2,407,420	122,325 94	144,450 22	25,351 89	124,401 13	29,335 37	9,266 26
December 31, 1916,	2,350,121	126,736 20	149,433 38	25,687 77	120,100 19	29,709 35	376 16
December 31, 1917,	2,283,406	125,884 67	147,344 64	21,225 70	109,883 73	29,349 19	8,611 72
June 30, 1918,	2,151,050	122,650 53	142,705 80	20,668 63	108,719 19	29,441 49	4,545 12

¹ Exclusive of receipts from sale of power.² Crediting receipts from sale of power.

& Deficit.

These figures show that in spite of two fare increases there has been a decrease in the last three years of \$5,575.94 in passenger revenue and of \$3,808.83 in net income. The saving which the company anticipated in 1915 would result from the purchase instead of the manufacture of power has not materialized, as the price of power under the contract increases with the cost of coal. The maintenance charges during the past year were about \$3,500 less and the total operating expense about \$6,000 less than three years ago. In view of the increased cost of labor and supplies, it would appear that the company has not spent a sufficient amount for the proper upkeep of its property during the past year, and that the actual financial results of operation have been even more unfavorable than the income record would indicate. Upon these facts it would seem that the company is entitled to an increase of at least \$25,000 in its gross revenue, even if no allowance be made for depreciation or for a return upon the floating debt, which has never received the endorsement of the Commission.

Under the schedule filed, the company estimates that the 6-cent ticket rate upon certain portions of its lines would accommodate about one-half of its patrons, and that the increase in the cash fare from 6 cents to 7 cents would affect the remaining passengers only. If we assume that only 40 per cent of the total number of passengers would avail themselves of the ticket rate, the increase in revenue, without making any allowance for the decrease of traffic which might be reasonably anticipated in view of the past experience of the company, would not exceed 10 per cent, or \$12,265. The increase in rates desired is, therefore, clearly justified by the revenue requirements of the company, and is well within the amount to which it might reasonably claim to be entitled.

The only remaining question is whether the method of obtaining this additional revenue as shown in the schedule filed is just and reasonable. Upon the face of the company's returns, and in the light of its experience under prior rate increases, it might appear that a further increase in rates would be likely to reduce rather than to increase its gross revenue. The company, however, claims that the falling off in the number of passengers and the decreased passenger revenue during the past three years have been due, not so much to the increased fares, as to war conditions, the increased use of automobiles and other causes, and that the revenue results would have been still more unfavorable if the old rates had been retained. The contention of the company is to some degree supported by the figures for the last three months

of operation under the old rates, from July 1 to September 30, 1915. In these three months the company carried 158,421 less passengers than in the corresponding period of the previous year, though the fares remained the same, while the decrease under the higher fare was only 234,400 for the first full year, and for the year following was somewhat less. Under the second fare increase, in September, 1917, the total number of passengers for the first ten months, ended June 30, 1918, fell off 200,967, as compared with the ten months ended June 30, 1917. While it is manifestly difficult, without detailed knowledge of local conditions, to draw any positive conclusion from these figures, we have little doubt that the increase in rates has been one of the contributing causes to the decline in travel, but it is probably only one of several factors. If that is true, and even if we should assume that four-fifths of the loss of travel was due to the increase in rates and only one-fifth to other causes, the rate increases already granted have been beneficial, and if the company needs additional revenue it should be permitted, in its discretion, to make a further increase of rates. Indeed, the right of the company to make the increases provided for in its schedule or even to charge a straight 7-cent fare was generally conceded. The only complaint was that made by the selectmen of Marion, upon the ground that the rates proposed were discriminatory by providing for a 6-cent ticket rate on certain portions of its lines and compelling passengers on the remainder to pay a 7-cent cash fare.

Under the company's schedule single tickets for 6 cents each are available between the Fairhaven-Mattapoisett line and North street, Mattapoisett, between the Wareham high school and East Wareham, and between East Wareham and Ramsdell's siding on the main line; and between Middleborough Center and State Road siding, and between the Narrows bridge, Wareham, and Tremont on the Middleborough division. In the aggregate these tickets are available on $13\frac{1}{2}$ miles of the company's total mileage of about 37 miles. The distances for which they may be used are in all cases less than a regular fare zone; they are made available between all points where there is any appreciable amount of regular daily riding; and the density of traffic is greater than on other portions of the company's system. The propriety of permitting a different rate of fare under such conditions has been generally recognized in previous rate cases and cannot be regarded as discriminatory.

In addition to these single 6-cent tickets the company proposes to issue a through round-trip ticket for 60 cents, representing a rate of 6 cents for each fare zone, between the Narrows bridge, Wareham, and the Fairhaven-Mattapoisett line, where connection is made with the tracks of the Union street railway, and passengers are enabled to ride through to New Bedford upon payment of an additional 5-cent fare to the latter company. The selectmen of Marion claimed that, if this reduced rate were made available for the five fare zones from Wareham to the Fairhaven line, a similar rate should be established for three of such zones from McAllister's corner, Marion, to the Fairhaven line.

The company stated that this special rate was put in to encourage through riding from Wareham to New Bedford. The right of a railroad or street railway company voluntarily to make a round-trip excursion rate at some reduction from the regular fare is generally recognized, although it is doubtful whether the Commission would have authority to require the company to establish such rates if the regular fare is just and reasonable. This discretion upon the part of the company must, however, be reasonably exercised. In the present case, the company stated that it knew of only one passenger who would be likely to use the line regularly between Wareham and New Bedford, and no evidence was presented to indicate that any substantial amount of casual riding could be developed by the reduced rates. If the rate to the Fairhaven line should remain 21 cents from Marion and 30 cents each way from Wareham, this arrangement would virtually allow passengers to ride over the two additional fare zones from Marion to Wareham, where the normal riding is extremely small, for 9 cents. At the hearing the company intimated that it might desire, after further consideration, to cancel these proposed round-trip tickets. This matter, as we have already stated, is within the volition of the company and it may cancel these tickets if it desires to do so. If, however, the company decides to retain these tickets it should also provide for the sale of tickets from McAllister's corner, Marion, to the Mattapoisett-Fairhaven line at a corresponding rate, which would be 36 cents for the round trip. Subject to this modification, the company will be allowed to file a new schedule in accordance with its notice and schedule filed with the Commission on May 29, 1918, to become effective on short notice.

ORDER.

It appearing that on June 27, 1918, an order was issued suspending until August 1, 1918, the rates and charges stated in the schedule described in said order, and that said rates and charges were further suspended until August 10, 1918, by an order dated July 31, 1918; and

It further appearing that a full investigation of the matters and things involved has been had, and that the Commission on the date hereof, has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, —

It is

Ordered, That the New Bedford and Onset Street Railway Company be and is hereby notified and required to cancel the rates and charges stated in the schedule specified in said orders of suspension.

It is

Further ordered, That a copy of this order be filed with said schedule at the office of the Commission and a copy hereof be forthwith served upon the New Bedford and Onset Street Railway Company.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

AUGUST 9, 1918. [P. S. C. 2168]

NORTHERN MASSACHUSETTS RATES.

Notice of the Northern Massachusetts Street Railway Company of proposed change in rates of fare upon its railway.

D. P. ABERCROMBIE, JR.,
ROBERT H. HOLT
JOHN A. TAGGART

} for Northern Massachusetts Street
Railway Company.

ELISHA S. HALL for Town of Orange and Boards of Trade of Athol and Orange.

P. H. MURRAY for Town of Gardner.

P. H. LOUGHLIN for Town of Westminster.

The Northern Massachusetts Street Railway Company operates in all about 42 miles of main track. The main line runs from the town of Orange through Athol, Phillipston, Templeton, Gardner and Westminster to Waite's Corner in the outskirts of Fitchburg, where connection is made with the Fitchburg and Leominster street railway. The total length of the main line, including the loop in Gardner, is about 31 miles. There is also a branch about eleven miles long, running from East Templeton through Baldwinville to Winchendon.

The Northern Massachusetts is a combination of three companies, the Athol and Orange, organized in 1894, the Templeton, organized in 1896, and the Gardner, Westminster and Fitchburg, organized in 1899. There were originally two other small companies, the Gardner Electric, organized in 1894, which was consolidated with the Gardner, Westminster and Fitchburg in 1899, and the Phillipston, which was consolidated with the Templeton in 1903. The Athol and Orange formerly owned the portion of the present main line from Orange to the fair grounds in Athol. The Templeton owned the portion from that point to West Gardner square, and also the branch line from East Templeton to Baldwinville, which was afterwards extended to Winchendon; and the Gardner, Westminster and Fitchburg owned the remainder of the main line from West Gardner square to Fitchburg.

The Athol and Orange, with the approval of the Board of Railroad Commissioners, purchased the property and franchises of the Templeton company as of January 1, 1913, and consolidated with the Gardner, Westminster and Fitchburg as of March 1, 1913. On April 15, 1913, the name of the consolidated company was changed from the Athol and Orange Street Railway Company

to the Northern Massachusetts Street Railway Company. The company is controlled by a voluntary association known as the Massachusetts Consolidated Railways, which now owns practically all of its common stock and also controls two other street railway companies, the Connecticut Valley and the Concord, Maynard and Hudson.

At the present time the system is divided into 12 fare zones with a 5-cent unit of fare. The company has filed a new schedule of fares under which it proposes to divide its lines into zones of approximately 1 mile each, to charge a fare of 5 cents for the three first zones or any fraction thereof, and 2 cents for each additional zone. It is also proposed to issue ticket books with 150 coupons for \$2.80, each coupon to be good for travel within one zone, except that the minimum of three coupons will be detached for each ride. Complaint having been made, this schedule was suspended by successive orders until May 1, 1918, and public hearings thereon were duly notified and held.

At the time of the merger in 1913 all the outstanding stock and bonds of the three constituent companies which became the Northern Massachusetts Street Railway Company had been issued with the approval of the Board of Railroad Commissioners, but a very large floating indebtedness existed which, of course, had no such sanction. This was particularly true of the Templeton company, which had never paid dividends and had accumulated a deficit of more than \$130,000. Because of this indebtedness, the Commission appraised the property of this company, and as a condition of its approval of the purchase of its property and franchises required the cancellation of all liabilities in excess of the value so found, which was \$435,000. The reduction in liabilities amounted, all told, to over \$325,000 and the book value of permanent investments was reduced by approximately \$195,000. The purchase price of \$435,000 was paid by assuming debts of approximately \$350,000 and giving the acceptances of the purchasing company, the Athol and Orange, for the balance. Contemporaneously, the capital stock and all the remaining obligations of the Templeton company were cancelled.

The Gardner, Westminster and Fitchburg was consolidated with the Athol and Orange upon the basis of the assumption of all outstanding obligations and the exchange of stock on a share for share basis (1 P. S. C. Rep., p. 271).

Since the consolidation, issues of securities have been approved on two occasions. On March 26, 1913, the Board of Railroad Commissioners approved the issue of additional common stock to

the amount of \$90,500 and of preferred stock to the amount of \$150,000 "for the purpose of providing for the payment of a part of the indebtedness incurred in the purchase by said company of the franchises and property of the Templeton Street Railway Company" (1 P. S. C. Rep., p. 170). On June 30, 1913, the Board also approved the issue of bonds to the amount of \$500,000, of which \$255,000 was to be used to pay floating indebtedness and the balance to refund the outstanding bonds issued by the constituent companies. In connection with this latter issue an appraisal was made to determine the amount of floating indebtedness which might properly be funded, and the value of the entire property, as shown by a memorandum filed with the papers in the case, was determined by the Board to be approximately \$1,095,000. This furnishes a starting point from which the present investment, which may justly and reasonably be used as a basis in fixing rates, may be ascertained.

The balance sheet of the company on December 31, 1917, was as follows: —

<i>Assets.</i>		
Roadway and track,	\$812,939 64	
Equipment,	239,250 69	
Land and buildings,	132,196 16	
Parks and resort property,	48,656 16	
Advances,	2,502 90	
	<hr/>	\$1,235,545 55
Cash and current assets: —		
Cash,	\$4,488 43	
Miscellaneous accounts receivable,	49,789 30	
Material and supplies,	48,045 45	
Prepaid interest,	179 47	
Prepaid expenses,	1,415 06	
Prepaid services,	271 39	
Prepaid taxes,	2,215 02	
	<hr/>	106,404 12
Unadjusted debits: —		
Insurance paid in advance,	\$1,700 00	
Discount on funded debt,	26,502 20	
Track construction, jobs incomplete,	3,926 25	
Track reconstruction,	9,592 30	
Reserve for preferred dividends,	7,875 00	
Taxes paid under protest,	356 82	
Sundry deferred items,	1,350 37	
	<hr/>	51,302 94
Grand total,		<hr/> \$1,393,252 61

<i>Liabilities.</i>	
Capital stock,	\$500,000 00
Funded debt,	500,000 00
Unfunded debt,	300,000 00
	<hr/>
	\$1,300,000 00
Grants in aid of construction,	1,867 76
Current liabilities: —	
Audited accounts and wages payable,	\$45,263 85
Accrued interest, dividends, etc.,	17,739 53
Other current liabilities,	2,000 00
	<hr/>
	65,003 38
Unadjusted credits: —	
Accrued depreciation,	\$6,109 88
Other unadjusted credits,	30,005 26
	<hr/>
	36,115 14
Profit and loss, deficit,	9,733 67
	<hr/>
Grand total,	\$1,393,252 61

In the period from June 30, 1913, to December 31, 1917, the increase in permanent investments, as shown by the company's returns, amounted to \$81,051.67. The exhibits submitted by the company have not been in sufficient detail to enable the accounting department of the Commission to check up these expenditures and to determine whether items have been correctly distributed as between capital and operating accounts. It is doubtful, therefore, whether the full amount shown on the company's books as additions to property accounts should be allowed as a capital charge or as a basis for rate-making. It is to be observed, also, that the company formerly operated a short branch line extending from the main line in the town of Westminster to Lake Wachusett, a distance of something over 2½ miles. This line was abandoned about two years ago. A portion has already been taken up and the remainder is to be taken up in the near future, but the investment in this property, less its reclamation value, has not yet been written from the books. Starting with the \$1,095,000 determined by the Board of Railroad Commissioners in 1913, and considering the changes which have since taken place, however, the investment which may properly be used as a basis for computing fair and reasonable rates may be fixed with sufficient accuracy for present purposes at approximately \$1,150,000.

In accordance with the principles which the Commission has laid down in previous cases, taking into consideration the risk of

the enterprise, the company is entitled to a return of at least 6 per cent upon that amount, without any deduction for depreciation, unless failure to make provision for it is due to the payment of unwarranted dividends, or is otherwise attributable to mismanagement.

The dividend record of the three constituent companies prior to consolidation shows that the Athol and Orange company, in the fiscal year ended September 30, 1895, the first year of operation, paid a dividend of 5 per cent; in 1896, a dividend of 4 per cent; from 1897 to 1910, inclusive, an annual dividend of 8 per cent; in 1911, a dividend of 7 per cent; and in 1912, a dividend of 6 per cent. The Templeton company paid no dividends whatever. The Gardner, Westminster and Fitchburg company, prior to 1908, paid no dividends; in 1908 and 1909 it paid an annual dividend of 2 per cent; in 1910, a dividend of 4 per cent; and in 1911 and 1912, an annual dividend of 5 per cent. Figured on the basis of the aggregate capital stock of the constituent companies, outstanding at the end of each fiscal year, the average annual dividend paid during the entire period prior to consolidation was approximately $3\frac{1}{2}$ per cent.

In the year ended June 30, 1913, the first fiscal year subsequent to consolidation, the outstanding stock for the first three-quarters of the year was \$334,500, and for the last quarter \$350,000 common stock and \$150,000 preferred. The dividend paid on the common stock amounted to \$10,985, which is equivalent to approximately $3\frac{1}{2}$ per cent upon a yearly basis, and a quarterly dividend of $1\frac{1}{2}$ per cent, representing an annual rate of 6 per cent, was paid on the preferred stock. Dividends on the common stock at the rate of $2\frac{1}{2}$ per cent were paid in 1914 and 1915, and the regular 6 per cent dividend on the preferred stock was paid up to and including the first quarter of 1917. Since June 30, 1915, no dividends have been paid on the common stock, and since February 15, 1917, none have been paid on the preferred stock. Since consolidation and up to December 31, 1917, the total dividends paid on all stock of the Northern Massachusetts company represent an average of slightly over 2 per cent.

Even at this moderate rate, the company found, when its accounts were adjusted according to the requirements of the accounting department of the Commission, that it had been paying dividends without earning them, and had accumulated a large deficit. As a result the trustees of the Massachusetts Consolidated Railways, as owners of the common stock, voluntarily contributed to the company in December, 1916, \$54,000 in cash,

which was more than twice the amount of the dividends paid on the common stock since 1913, and within \$6,000 of all dividends paid during that period. In spite of this fact, the profit and loss account, which on June 30, 1913, showed a surplus of \$29,465.31, showed a deficit of \$9,733.67 on December 31, 1917. There is little doubt, also, that certain accounts carried on the company's books as unadjusted credits represent current maintenance charges to the extent of at least \$10,000, and that the deficit shown should be increased by at least that amount. If allowance is made for deductions from property accounts, amounting to \$28,194.16, which have not been charged to operating expense, the deficit from operation during this period of 4½ years will amount to approximately \$21,000. The net result is that the stockholders during this period have received practically nothing in the way of dividends, and the property has been operated at a substantial loss.

While the company, as will be shown later, has undoubtedly failed to maintain its properties in a satisfactory condition, and has neglected renewals and replacements which are long overdue, the failure to make adequate provision for depreciation, since the consolidation, is to be attributed to insufficient income and the low earning capacity of the property rather than to mismanagement. Depreciation prior to the consolidation was apparently taken into consideration by the Board of Railroad Commissioners at the time of the appraisal in 1913. The company appears, therefore, to be reasonably entitled to a return of at least 6 per cent upon the present investment value of its property without deduction for depreciation.

The next question to be considered is whether the expenditures of the company represent the legitimate cost of operation, and how far an increase in net revenue is or might have been possible through more efficient methods of operation.

The general officers of the Northern Massachusetts Company also manage the other two street railways which are under the control of the Massachusetts Consolidated Railways, — the Connecticut Valley and the Concord, Maynard and Hudson. The salaries of these officers are apportioned between the three companies upon the basis of gross earnings, the share of the Northern Massachusetts being three-sevenths of the total, and amounting to \$7,189. In addition, the company pays the full salaries of a superintendent and two assistants who devote their entire time to this company. While the organization seems unnecessarily

elaborate, the total salaries for management and superintendence, amounting to \$11,166, can hardly be regarded as excessive.

The item of operating expense which would seem to be most open to question is the price which the company pays for its power. The following table shows the cost of power, without including interest and depreciation, per kilowatt hour and per car mile, as of December 31, 1916, for the Northern Massachusetts company and certain other companies which might be regarded as comparable: —

	Per Kilowatt Hour (Cents).	Per Car Mile (Cents).
Northern Massachusetts,	1.981	6.95
Berkshire, . . . . .	.699	4.28
Fitchburg and Leominster, . . . . .	.800	4.18
Massachusetts Northeastern,	1.542	6.39
Middlesex and Boston,	1.750	4.83
Milford and Uxbridge,	1.510	4.22
New Bedford and Onset,	1.210	5.00
Northampton, . . . . .	.989	3.46
Average for all companies except the Boston Elevated, . . .	.937	3.85

While it is true that the varying conditions under which the different roads are operated make it unsafe to attach too much significance to comparative data of this character, the power cost of the Northern Massachusetts company appears to be extremely, if not unduly, high. Upon investigation it appears that prior to consolidation the Athol and Orange company always purchased its power, but the Templeton and the Gardner, Westminster and Fitchburg companies manufactured their own power. The Templeton plant was taken over at a valuation of \$20,000, and the Gardner, Westminster and Fitchburg plant at its book value of \$59,432.51, making a total of \$79,432.51. As the result of additions to equipment since made and certain amounts written off on account of damage by fire, these plants, on December 31, 1917, stood on the books of the company at a value of \$77,825.72. In 1912 the company entered into a contract with the Athol Gas and Electric Company, under which the latter agreed to furnish power measured as direct current at the rate of 1.8 cents per kilowatt hour, and to assume all converting and machine losses. Under the terms of the contract it was necessary for the railway

company to build and maintain a three-phase, high tension transmission line from Westminster to the Athol fair grounds, which cost approximately \$36,000. The interest on this investment, which amounted to at least 5 per cent, or \$1,800 per annum, should be taken into consideration in computing the cost of power per kilowatt hour. On the basis of an annual consumption of three million kilowatt hours, the interest charge of \$1,800 would add .06 cent per kilowatt hour. To this must be added interest and depreciation on the company's steam plants, which were held in reserve, and which would amount to .8 cent per kilowatt hour, making a total cost of 2.66 cents. A further condition of the contract was that the railway company should keep and maintain the high tension line in good and serviceable condition, but inasmuch as this line was new, it required little or no attention, and no allowance has been made for any additional cost on this account.

Owing to the fact that the load factor was at times much below normal, and that the machine loss was large, the power company apparently could not furnish power under this contract during certain hours at a profit. Although it was liable under the contract for failure to supply the energy contracted for, it apparently refused or neglected to furnish adequate power to meet the operating requirements of the railway company and to enable it to maintain its schedules during all hours. In 1916, when the original contract had eleven years more to run, the general manager of the Northern Massachusetts company entered into a contract with the power company upon a basis which would allow a larger profit to the latter company and would thus give it the incentive to furnish an adequate and dependable power supply. As the result of this new arrangement, it is claimed that former troubles have been eliminated, and that the power supply is continuous and satisfactory.

Under the new contract the cost of the power, less the discount for payment within fifteen days, is fixed at 1.84 cents per kilowatt hour, the power to be measured as alternating current, and the railway company to assume all converting and machine losses. These losses amount to at least 20 per cent, or .36 cent per kilowatt hour, to which should be added interest and depreciation on the railway company's steam plants, which increases the cost .8 cent per kilowatt hour, making the total cost 3 cents. As one condition of the contract is that the power company shall take over the high tension transmission line at a cost of \$36,000, no

interest charge has been added in computing the cost of power under this contract.

The cost of power per kilowatt hour, based on generating cost, contract prices and incidental charges, is thus 3 cents under the new contract as compared with 2.66 cents under the former contract. Upon the basis of the power consumption during the year ended December 31, 1917, this represents an additional cost of \$11,092. It is also probable that, if an attempt had been made to purchase power from the New England Power Company direct, a price could have been obtained less than that quoted in the 1916 contract with the Athol Gas and Electric Company, inasmuch as the Athol company was able to purchase power from the New England company for 1.1 cents per kilowatt hour. Under these circumstances the reasons advanced by the railway company for entering into this new contract are not convincing, and the Commission is of the opinion that it might, by the exercise of reasonable business prudence and sagacity, have effected a saving in the power cost of at least \$11,000 a year.

The amount expended by the company for maintenance and depreciation for the year ended December 31, 1917, was \$35,516.12 and the average expenditures since 1913 have been \$41,068.66. A report made by the inspection department of the Commission, which is on file with the papers in the case, indicates that extensive renewals of track are needed at once, that several of the cars should be scrapped and many others overhauled or rebuilt, if continued in service, and that an expenditure of \$92,700 during the year 1918 and an average expenditure of \$57,750 for four years thereafter are necessary "to put the entire property in a reasonably good condition." Without making any provision for renewals and replacements due to past neglect, it may be conservatively stated that an annual expenditure of at least \$50,000, which is approximately 20 per cent of the company's gross earnings, is necessary to provide for current maintenance and depreciation charges.

The operating expenses and taxes of the company for the year 1917, exclusive of maintenance and depreciation charges, amounted to \$162,215.38. Assuming that a possible saving of \$11,000 might have been made in the cost of power, this figure is reduced to \$151,215.38. If the financial situation of the company were such as to enable it to replace its present obsolete equipment with suitable cars of modern type, including one-man cars for operation on certain lines, and to make other expenditures for the rehabilita-

tion of its property, we believe that a considerable net saving might be made through increased traffic and reduced operating costs; but under present conditions the cost of power under the present contract is the only item of operating expense to which, upon the evidence available, exception may justly be taken.

In estimating the total cost of service, a charge of at least \$50,000, as already stated, should be allowed for maintenance and depreciation and an additional charge of \$69,000 in order to provide for the payment of a return of 6 per cent upon a total investment value of \$1,150,000. Upon this basis the company would appear to be entitled to a gross revenue of \$270,215.38. Owing to the trend of prices for fuel, labor and supplies, this figure should be increased for the year 1918 to at least \$275,000. As the total income of the company for the year 1917 amounted to \$247,407.50, the company is fairly entitled to an increase of approximately \$27,500 in its gross revenue through a readjustment of fares.

The only opposition offered at the hearing to the proposed schedule of fares was directed to three subsidiary matters. One was in relation to the proposed fares on the loop line in the town of Gardner. The westerly side of this loop is located on Main street between West Gardner square and Gardner depot, and forms a part of the main line over which the company's through service is operated. The easterly side of the loop runs from West Gardner square by way of Gardner Center and Chestnut street until it joins the main line again at Gardner depot, and is served by a local line which is also operated over the main line as far as South Gardner. The business center of the town is at West Gardner, the town hall, the high school and the most important residential section are at or near Gardner Center and several chair factories are located in South Gardner. At present passengers can ride from any part of South Gardner to Gardner Center, either by way of Chestnut street or by way of Main street, for a single 5-cent fare. Under the proposed schedule the fare will remain five cents by way of Chestnut street, but passengers boarding the cars east of Sawin's bridge and taking the main street line will pay 5 cents to ride to West Gardner square and 2 cents additional to Gardner Center. The complainants asked to have the schedule readjusted so that passengers will have the option of traveling to Gardner Center by either route upon payment of a 5-cent fare. In our judgment, however, there is no good reason why a special adjustment should be made to enable passengers to

travel by the more circuitous route, especially as they would be obliged to transfer to the local line at West Gardner square and would thus receive no greater frequency of service than would be available by using the direct route.

Certain residents of Westminster also complained of the location of one of the proposed fare limits at Bacon street and asked to have it extended easterly to Worcester road for the benefit of passengers traveling towards Gardner. As the proposed fare limit takes in much the larger part of the village, the Commission, in view of the small number of persons affected, would hardly be warranted in extending this zone to a length of 1.4 miles. It is to be remembered also that the regular fare limit is at Bacon street, at the present time, and, while there is an overlapping fare to Worcester road, there is little justification for overlaps when the increase of fare in successive zones is only 2 cents instead of 5 cents.

The other feature of the proposed tariff to which objection was raised is the abolition of the workmen's tickets, which are now available during certain hours of the day between Orange and Athol. These tickets are sold in books of 40 for \$1.25, or at the rate of $3\frac{1}{8}$ cents each. As there are two fare zones between Orange and Athol, the ticket fare between these points is $6\frac{1}{2}$ cents, as compared with a cash fare of 10 cents. In the form in which these tickets are now issued they can also be used by passengers riding in one fare zone only, thus reducing the minimum fare from 5 cents to $3\frac{1}{8}$ cents. This particular objection could be easily obviated by having the books made up of 20 tickets with two coupons each, but the company in its schedule has withdrawn the tickets entirely.

These tickets were put in operation many years ago by the Athol and Orange company when it was operated as a separate company, but have been retained up to the present time by the present management. No similar tickets are available between other points of the Northern Massachusetts system. The Commission is of the opinion that this ticket rate under present conditions is too low to afford a reasonable compensation to the company and that it might also be regarded as constituting a discrimination against other communities served by the company.

As the proposed fare schedule is on a radically different basis from the one now employed, it is difficult to make an accurate estimate in advance of the increased revenue which would be likely to result from its adoption. Certain fares under the new

schedule will be upon a lower basis than at present and some decrease in riding is to be anticipated between certain points where the fares have been increased. In view of these facts and in the light of the revenue results from the recent adoption of a similar system of fares by other companies, the Commission is satisfied that the actual increase in revenue under the schedule filed will be well within the limit of the amount to which the company appears to be entitled.

ORDER.

Notice of the Northern Massachusetts Street Railway Company of proposed change in rates of fare upon its railway.

It appearing that on October 26, 1917, an order was entered suspending until December 1, 1917, the rates and charges stated in the schedule described in said order and designated as Northern Massachusetts Street Railway Company M. P. S. C. No. 2, and that by subsequent orders said rates and charges were further suspended, unless otherwise ordered by the Commission, until May 1, 1918; and it further appearing that a full investigation of the matters and things involved has been had, and that the Commission, on the date hereof, has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, —

It is

Ordered, That the orders heretofore entered in this proceeding, suspending the operation of said schedule be and they are hereby vacated and set aside as of April 30, 1918, and that this proceeding be discontinued.

It is

Further ordered, That a copy of this order be filed with said schedule at the office of the Commission and a copy hereof be forthwith served upon the Northern Massachusetts Street Railway Company.

By the Commission,

ANDREW A. HIGHLANDS,

APRIL 30, 1918.

[P. S. C. 1921]

Secretary.

THE SPRINGFIELD RATE CASE.

Notice of the Springfield Street Railway Company of proposed increase in rates of fare upon its railway.

DECIDED MARCH 30, 1918.

BENTLEY W. WARREN } for Springfield Street Railway Com-
CLARK V. WOOD } pany.

CHARLES H. BECKWITH for City of Springfield.

JOHN C. ROBINSON for Springfield Board of Trade.

THOMAS W. KENEFICK for Towns of Palmer, Monson and Brimfield.

E. A. McCLINTOCK for Town of West Springfield.

D. J. COAKLEY

M. B. HOULIHAN

E. A. McCLINTOCK

} for City of Chicopee.

LEONARD F. HARDY for Towns of Longmeadow, Russell and Huntington.

WILLIAM V. BALDWIN for Town of Wilbraham.

C. L. COOLEY for Towns of East Longmeadow and Hampden.

GARDNER & GARDNER for Town of Ludlow.

ARTHUR S. KNEIL for Town of Westfield.

SCOTT ADAMS for Town of East Longmeadow.

GEORGE D. STORRS for Town of Ware.

REPORT.

On August 1, 1917, the Springfield Street Railway Company notified the Commission of a proposed increase in passenger fares to take effect September 1, 1917. Pending investigation, the new schedule was suspended until November 1, 1917, and by subsequent orders to April 1, 1918. Several public hearings were held, final arguments being concluded on January 5, 1918.

The Springfield Street Railway Company owns and operates 187.5 miles of track. It is not wholly a city system, as its name might imply, for it also operates interurban and rural lines. The Springfield division takes in all of that city and the adjacent area within the present 5-cent fare limits, including lines in the city

of Chicopee. The Westfield division connects at West Springfield, its main line extending through Westfield and Russell into Huntington. It includes the local lines in Westfield. The Palmer division connects on the east at Indian Orchard and takes in the local lines in Palmer, Monson and Ware, its main line extending through Wilbraham and Palmer into Brimfield. The distance by rail from the western terminus in Huntington to the eastern in Brimfield is about 50 miles. In connection with the Holyoke Street Railway Company, interurban service is furnished between Springfield and Holyoke and between Westfield and Holyoke; in connection with the Hartford and Springfield Street Railway Company, between Springfield and Hartford on both sides of the Connecticut river; and in connection with the Worcester Consolidated Street Railway Company, between Springfield and Worcester. The following table shows the mileage in each division and in the various cities and towns served, also the population at successive periods: —

	Miles of Track.	POPULATION.			
		1900.	1905.	1910.	1915.
<i>Springfield Division.</i>					
Agawam,	10.97	2,536	2,795	3,501	4,555
Chicopee,	10.91	19,167	20,191	25,401	30,138
East Longmeadow,	2.28	1,187	1,327	1,553	1,939
Longmeadow,	6.13	811	964	1,084	1,782
Ludlow, . . . . .	.85	3,536	3,881	4,948	6,251
Springfield,	60.43	62,059	73,540	88,926	102,971
West Springfield,	23.50	7,105	8,101	9,224	11,339
Total,	115.07	96,401	110,799	134,637	158,975
<i>Westfield Division.</i>					
Huntington,	1.18	1,475	1,451	1,473	1,427
Russell,	6.80	793	1,053	965	1,104
Westfield,	19.98	12,310	13,611	16,044	18,411
Total,	27.96	14,578	16,115	18,482	20,942
<i>Palmer Division.</i>					
Brimfield,	10.15	941	894	866	934
Monson,	8.19	3,402	4,344	4,758	5,004
Palmer,	16.80	7,801	7,755	8,610	9,468
Ware,	3.61	8,263	8,594	8,774	9,346
Wilbraham,	5.72	1,596	1,708	2,333	2,521
Total,	44.47	22,002	23,296	25,340	27,273
Grand total,	187.50	132,981	150,209	178,459	207,190

PROPOSED CHANGES IN FARES.

In the Springfield division, one can now ride long distances for 5 cents. The longest direct ride from Court square is the 8.37 miles to Ludlow, but transfers are given at the center so that it is possible to cover nearly twice this distance without paying an additional fare. Few take such rides, for a traffic survey made by the company indicated that the average ride per person, including transfers, is but 2.88 miles. Connecting the present 5-cent fare limits on the various lines, the territory thus enclosed has an area of about 61.5 square miles. The company now proposes to divide this area into two separate zones. The limits of the inner zone would be fixed at points varying from 2.3 miles to 3.6 miles (track distance) from Court square, and the area included would be about 18.6 square miles. The following table shows the distance in miles from Court square to the various outlying points, and the portion of the distance to be included, in each case, within the inner zone and within the outer zone: —

ROUTE.	Inner Zone.	Outer Zone.	Total.
From Court square to —			
Chicopee Junction via Brightwood, . . .	2.309	1.953	4.262
Market square, Chicopee, via Glenwood, . .	2.807	1.328	4.135
Chicopee Falls via Liberty street,	3.155	1.440	4.595
Chicopee Falls via East Springfield,	3.653	2.016	5.669
Ludlow,	3.201	5.170	8.371
Wilbraham town line,	3.201	4.314	7.515
East Longmeadow,	3.155	1.926	5.081
Longmeadow,	2.874	3.262	6.136
Agawam-Connecticut state line,	3.416	4.343	7.759
Agawam-Feeding Hills,	3.416	4.378	7.794
Westfield town line,	3.324	2.911	6.235
Holyoke city line,	3.504	2.758	6.262

In the inner zone the fare would be 5 cents, with free transfer privileges. In the outer zone 5 cents would also be charged, so that the fare to and from points in the inner zone would become 10 cents, an increase of 100 per cent. The limits of the outer zone would in all cases coincide with the present 5-cent fare limits, except on the Westfield line, where 1.3 miles would be added by extending the limit in West Springfield from Tatham

to the Westfield boundary. On the lines to Chicopee, tickets would be sold at the rate of 8 cents each, good to and from points in the inner zone in lieu of a 10-cent cash fare; but no similar privilege would be given, under the new schedule as filed, on any of the other lines.

In the Palmer division there are now 22 overlapping zones, varying from 7.42 miles in length to 1.7 miles and averaging 5.09 miles, in each of which the fare is 5 cents. The company now proposes to eliminate all overlaps and introduce two new limits in Palmer, so that there would be 13 separate zones, varying from 6.54 to 1.7 miles and averaging 3.82 miles in length, in each of which the fare would be 6 cents. The effect on through traffic may be illustrated by the ride between Brimfield and the Springfield city line, a distance of 20.69 miles, where the fare is now 30 cents, or about 1.45 cents per mile, and would become 36 cents, or about 1.74 cents per mile. The effect on local riders, for whose convenience existing overlaps have been established, would be much more serious.

In the Westfield division, disregarding certain short local lines in the thickly settled portion of Westfield, there are now 13 zones, varying from 9.09 miles in length to 1.05 miles and averaging 4.14 miles, in each of which the fare is 5 cents. The company now proposes to eliminate certain overlaps and to reduce the length of the first zone out of Westfield on the line to Springfield, so that there would be 10 zones, varying from 7.79 to 1.05 miles and averaging 3.78 miles in length, in each of which a 6-cent fare would be charged. From Park square in Westfield to Huntington, a distance of 12.33 miles, the fare is now 20 cents, or at the rate of 1.62 cents per mile, and would become 24 cents, which is about 1.95 cents per mile.

On the basis of traffic in the year ended June 30, 1916, the company estimates that the new schedule would produce a total increase in revenue of \$539,212. The actual operating revenue in that year was \$2,284,918, so that the increase estimated would amount to 23.6 per cent. Of the total, \$477,762 is estimated for the Springfield division, and \$61,450 for the other two divisions.

HISTORY OF THE COMPANY.

The Springfield Street Railway Company was organized as a horse car company in 1868. In the early days it seems that the cash fare was 8 cents, tickets being sold at the rate of 16 for \$1. In 1880 the cash fare became 7 cents and 5 tickets were

sold for 25 cents. In 1885 the cash fare was further reduced to 6 cents, and in 1890, at about the time when electric operation began, it became 5 cents and the sale of tickets at less than the cash rate ceased. The original fare on the Indian Orchard line, which was built shortly afterwards, was 10 cents, tickets being sold at the rate of 3 for 25 cents; but this fare was reduced to the uniform 5-cent rate in 1896.

Until 1905 the company was locally owned, was prosperous, and grew rapidly. Between 1890 and 1905 the track mileage increased from 21.40 miles to 93.75 miles, most of the lines to suburban points being constructed during this period. It was a time of continual enlargement of facilities without increase in fare. In 1905 control passed to the New York, New Haven and Hartford Railroad Company. A holding company of the voluntary association type was formed, known as the Springfield Railway Companies, and through this association the stock of the Springfield Street Railway Company was acquired. Some of it was purchased for \$225 per share in cash, and the balance for \$75 in cash and \$150 in 4 per cent preferred shares of the holding company, guaranteed by the railroad company.

At first the railroad company controlled the Springfield Railway Companies through a subsidiary known as the Consolidated Railway Company of Connecticut. In 1906, however, the shares of the Springfield Railway Companies, together with controlling interests in the Worcester and certain other Massachusetts street railway companies, were turned over to another voluntary association known as the New England Investment and Security Company, in exchange for its note for \$10,000,000. This association issued and sold to the public \$4,000,000 in 4 per cent preferred shares, guaranteed by the railroad company, and also issued \$100,000 in common shares. Under the declaration of trust by which it was created, the holders of the common shares select four out of the seven trustees and therefore exercise control. By retaining these common shares, the railroad company continued to control the trolley companies. It was hoped in this way to evade the Massachusetts law.

Shortly afterwards the attorney-general brought suit, charging that the trolley lines were still indirectly controlled in violation of law, and in 1908 the Supreme Judicial Court sustained this contention (198 Mass. 413) and ordered the railroad company to divest itself of all interest therein. In response to this order, the railroad company transferred the notes of the New England

Investment and Security Company to a subsidiary, the New England Navigation Company, and later to that singular corporation known as the Billard Company. The common shares of the voluntary association were transferred to certain personal friends of the then president of the railroad company, C. S. Mellen.

After the investigation of the New Haven affairs by the Interstate Commerce Commission in 1913 and the change in management which followed, the Billard Company was dissolved and the notes of the New England Investment and Security Company again became the property of the New England Navigation Company. In connection with the dissolution of the latter company, now in process, they have recently returned to the direct possession of the railroad company. The common shares passed, for a time, into the hands of the New York engineering firm of Sanderson and Porter, but were later bought and are now held by a committee representing the preferred shareholders of the New England Investment and Security Company. Under the decree entered in 1914 by the United States District Court in the suit under the Sherman Act brought by the Federal government, the New Haven company is enjoined to dispose of the notes of the New England Investment and Security Company on or before July 1, 1919.

At the present time, therefore, stock control of the Springfield Street Railway Company is held by the Springfield-Railway Companies, which owns 46,483 out of a total of 46,547 shares. Control of the Springfield Railway Companies is held by the New England Investment and Security Company, which owns all its common shares. Control of the latter voluntary association is in the hands of its preferred stockholders, who hold its common shares; but the New York, New Haven and Hartford Railroad Company, as the holder of notes amounting to \$13,709,000, has the chief financial interest in its property, and this interest is accentuated by the fact that it is the guarantor of dividends upon the \$3,387,900 preferred shares of the Springfield Railway Companies and upon the \$4,000,000 preferred shares of the New England Investment and Security Company. Under the first of these guarantees, \$127,758 was paid out during the past year. Nothing was paid out under the second guarantee, but payment was only avoided by reducing the interest upon the notes to 2 per cent.

As the above historical statement shows, the original stockholders of the Springfield Street Railway Company, under whose ownership the property was in large part built up, sold out at

a profit and are not concerned in the present proceedings. Aside from the creditors of the company, the financial benefit from any increase in rates which may be granted will accrue chiefly to the New York, New Haven and Hartford Railroad Company.

CONSOLIDATIONS.

Shortly after the New York, New Haven and Hartford Railroad Company secured control of the Springfield Street Railway Company, it acquired the stock of other street railway companies in adjoining territory. The stock of the Woronoco Street Railway Company, operating locally in Westfield, was acquired through the Springfield Railway Companies, six of the 4 per cent preferred shares of the latter being exchanged for five shares of the Woronoco stock, plus a cash bonus of \$60 per share. The stock of the Western Massachusetts Street Railway Company, a newly-built line from Westfield to Huntington, was acquired through the New England Investment and Security Company in exchange for an equal amount of the latter's 4 per cent preferred shares. The stock of the Springfield and Eastern Street Railway Company, known originally as the Palmer and Monson Street Railway Company, was also acquired through the New England Investment and Security Company. Some of it was secured in exchange for an equal amount of preferred shares of the latter; some of it was secured in exchange for half the amount of stock of the New York, New Haven and Hartford Railroad Company and the balance was purchased for cash. The highest cash price paid was \$175 per share, for a block of 76 shares, while the lowest price was about \$94 per share, for a block of 211 shares.

After control of these other street railway companies was secured, they were gradually consolidated with the Springfield company on a share for share basis. The Woronoco was absorbed by the Western Massachusetts in this way in 1907, and the latter by the Springfield company in 1909. The Springfield and Eastern was at first leased by the Springfield company for 25 years, at a rental of 4 per cent upon stock, but was later consolidated, in 1910, on a share for share basis. All of these consolidations were formally approved, after public hearings, by the Board of Railroad Commissioners.

Of the companies thus absorbed, the Woronoco Street Railway Company was the oldest and had the best earning capacity. It began operation in 1891 and declared no dividends until 1898. Thereafter dividends were paid at the following rates:—

	Rate (Per Cent).
1898,	2½
1899,	—
1900,	3
1901,	6
1902,	6
1903,	6
1904,	7
1905,	6
1906,	6

The Western Massachusetts Street Railway Company began operation in 1906 and in the succeeding year absorbed the Woronoco company, a larger and more valuable property. No dividends were paid prior to this consolidation, but in 1908 and 1909, 4 per cent was paid. The Springfield and Eastern Street Railway Company began operation in 1898 and declared no dividends up to the time of its lease by the Springfield company in 1906. Thereafter, dividends at the guaranteed rate of 4 per cent were paid until the consolidation in 1910.

CAPITALIZATION.

The balance sheet of the Springfield Street Railway Company on December 31, 1917, was as follows:—

Assets.

Investments:—

Road and equipment,	\$8,273,310 87
Deposits in lieu of mortgaged property sold,	28,963 00
Total investments,	<u>\$8,302,273 87</u>

Current assets:—

Cash,	\$136,216 59
Special deposits,	10,475 00
Miscellaneous accounts receivable,	54,276 66
Material and supplies,	245,011 62
Other current assets,	2,525 00
Total current assets,	<u>\$448,504 87</u>

Unadjusted debits:—

Rents and insurance premiums paid in advance,	\$27,542 13
Other unadjusted debits,	2,137 12
Total unadjusted debits,	<u>\$29,679 25</u>
Grand total,	<u>\$8,780,457 99</u>

Liabilities.

Stock: —

Capital stock,	\$4,654,700 00
Premium on capital stock,	279,174 89
Total stock,	<u>\$4,933,874 89</u>

Long-term debt: —

Funded debt unmatured,	\$2,305,000 00
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Current liabilities: —

Loans and notes payable,	\$1,178,973 32
Audited accounts and wages payable,	154,733 93
Miscellaneous accounts payable,	839 49
Matured interest, dividends and rents unpaid,	10,412 00
Accrued interest, dividends and rents payable,	24,679 87

\$1,369,638 61

Deferred liabilities: —

Other deferred liabilities,	\$3,501 00
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Unadjusted credits: —

Tax liability,	\$31,404 93
Premium on funded debt,	100 00
Operating reserves,	108,895 00
Accrued depreciation, road and equipment,	128,126 49
Other unadjusted credits,	11,809 99

Total unadjusted credits, \$280,336 41

Profit and loss debit balance,	d \$111,892 92
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Grand total, \$8,780,457 99

All of the outstanding stock and bonds have been issued under the supervision of this Commission or its predecessor, the Board of Railroad Commissioners, excepting the original issue of \$100,000 stock of the Springfield company and the similar issues of \$25,000 stock of the Woronoco company and \$12,000 stock of the Highland Street Railway Company, a small company in Westfield merged with the Woronoco in 1895. The integrity of these issues, however, was established by subsequent appraisals. At the time of the consolidation of the Western Massachusetts and Woronoco companies in 1907, the Board of

Railroad Commissioners made the following statement (39th Annual Report, p. 146): —

In considering the original cost of the Western Massachusetts street railway, the Board was convinced that the figures presented by the company were in excess of the amount which ought to stand as the capitalized cost of construction and therefore declined to approve the issue of the full amount of stock and bonds which the company had authorized. The proposed consolidation of this railway with the Woronoco street railway affords an opportunity for placing the cost of construction of the united properties upon a proper basis, and in compliance with the request of the Board the company has cancelled a large amount of outstanding indebtedness of the Western Massachusetts company as a step preliminary to the approval of the consolidation.

The indebtedness so cancelled amounted to \$75,000. In addition to the outstanding stock and bonds, this Commission, on November 2, 1917, authorized the issue of \$970,000 in mortgage bonds, for the purpose of funding floating indebtedness of the same amount. These bonds, however, have not yet been issued. Of the \$4,654,700 stock outstanding, \$2,437,000 was issued at par. On the remainder, premiums totalling \$883,750 were paid in, as follows: —

AUTHORIZED.	Amount.	Issue Price.	Premium.
1896,	\$13,000 ¹	— ²	\$100
1896,	166,700	150	83,350
1898,	291,700	150	145,850
1900,	500,000	170	350,000
1907,	299,700	170	209,790
1915,	946,600	110	94,660
	\$2,217,700	—	\$883,750

¹ Woronoco Street Railway Company.

² Sold at auction.

Of these premiums, only \$279,174.89 now appear as liabilities in the balance sheet. The remainder, \$604,575.11, were credited to the surplus account prior to the introduction of present accounting rules, being used to offset reductions in the book value of property.

The following table shows, for the ten largest street railway companies of the state, exclusive of the Boston Elevated, the

operating revenue per mile of track in the year ended December 31, 1916, the permanent investment per dollar of revenue, and the similar investment per mile of main track: —

COMPANY.	Operating Revenue per Mile of Track.	Investment per \$1 of Revenue.	Investment per Mile of Main Track.
Bay State,	\$10,564 24	\$4 71	\$54,402
Berkshire,	6,172 90	10 20	80,435
Boston and Worcester,	9,892 47	6 31	64,408
Fitchburg and Leominster,	8,397 70	4 59	40,726
Holyoke,	9,612 89	4 49	45,857
Massachusetts Northeastern,	5,901 92	4 62	29,332
Middlesex and Boston,	8,067 59	4 62	40,414
Springfield,	12,772 51	3 37	46,103
Union,	16,925 62	2 85	58,105
Worcester Consolidated,	10,555 38	4 36	53,411

This table is evidence that the Springfield company is conservatively capitalized. It ranks second in volume of revenue, but only ninth in investment per dollar of revenue and sixth in investment per mile of main track. It is a safe assumption that in the earlier years of its operation, prior to the introduction of modern accounting, the cost of additions and improvements were at times charged to operating expense.

RETURN ON INVESTMENT.

Until very recently the Springfield company has been regarded as one of the strongest companies financially in the commonwealth, and its owners have received excellent returns. From 1868 to 1876 no dividends were paid. In the five succeeding years the rates were as follows: —

YEAR ENDED —	Rate (Per Cent).	YEAR ENDED —	Rate (Per Cent).
September 30, 1877,	4	September 30, 1880,	8
September 30, 1878,	8	September 30, 1881,	7
September 30, 1879,	58		

From 1882 to 1910, inclusive, the rate was uniformly 8 per cent. Since that time it has been as follows: —

YEAR ENDED —	Rate (Per Cent).	YEAR ENDED —	Rate (Per Cent).
June 30, 1911,	7	June 30, 1915,	6½
June 30, 1912,	7	June 30, 1916,	6½
June 30, 1913,	7	June 30, 1917,	1½
June 30, 1914,	7	December 31, 1917,	—

It is significant that the first reduction below 8 per cent in recent years followed the last step in the consolidation of street railway properties in adjoining territory. Undoubtedly the absorption of these properties reduced the earning power of the company.

Since 1896 the actual return upon the investment represented by the stock has not been equal to the dividend rate, owing to the premiums paid in. Including the premiums, the dividends paid have yielded the following percentages: —

	Per Cent.
September 30, 1897,	7.46
September 30, 1898,	7.46
September 30, 1899,	6.91
September 30, 1900,	6.91
September 30, 1901,	6.17
September 30, 1902,	6.17
September 30, 1903,	6.17
September 30, 1904,	6.17
September 30, 1905,	6.17
September 30, 1906,	6.17
September 30, 1907,	6.04
September 30, 1908,	5.93
September 30, 1909,	5.93
June 30, 1910 (9 months),	6.10
June 30, 1911,	5.77
June 30, 1912,	5.77
June 30, 1913,	5.77
June 30, 1914,	5.77
June 30, 1915,	5.36
June 30, 1916,	5.46
June 30, 1917,	1.47
December 31, 1917 (6 months),	—

The average rate of return for the period covered by this table was 5.86 per cent.

Of the \$2,305,000 bonds outstanding, \$1,700,000 bear interest at the rate of 4 per cent and remainder, at 5 per cent. When 8 per cent dividends are paid, the average return upon the total investment represented by bonds, stock and premiums on stock is but 6 per cent.

PHYSICAL CONDITION OF THE PROPERTY.

The inspection department of the Commission has made a careful examination of the property. Under date of July 3, 1917, it reported that, on the whole, the track was in very fair condition, and this was also true of the overhead system. "The country lines in most cases are well tied, in fair surface, and the rail at the present time is generally good for the service it is receiving. About 75 per cent of the city lines are in good or fair condition." To bring roadbed and track to first-class condition, however, would require the immediate re-laying of about 15 miles of track with new rail and the renewal of about 100,000 ties. During the succeeding five years, the department estimates that about 3 miles of track and 40,000 ties ought to be renewed each year. From 1912 to 1916, inclusive, track renewals averaged 2.6 miles annually. Stating that it is difficult, under present conditions, to estimate with accuracy cost of future work, the department expresses the opinion that the average annual cost for the "proper maintenance of the roadbed, track and overhead system" during the next 5 years will not be less than \$210,000. The actual cost of maintenance of way and structures in 1917, after deducting expense of cleaning and sanding track and removing snow and ice, was about \$172,000, and in 1916 about \$179,000. It further appears that the track and tie renewals recommended by the inspection department last summer have not yet been made.

The rolling stock of the company may be classified as follows:—

Single-truck closed cars,	63
Double-truck closed cars,	205
Single-truck open cars,	96
Double-truck open cars,	54
<hr/>	
Total,	418

Most of the single-truck cars have been in use more than 20 years, some of them since 1892. The double-truck cars are of

more modern type and have been purchased, for the most part, since 1900. Of the double-truck closed cars 102 are semi-convertible, and of these 98 are prepayment in type. Forty-one of the latter have been purchased in the past three years, but 29 are old-style box cars reconstructed and 28 are converted open cars. The latter are slow in loading and unloading and not highly satisfactory. The single-truck cars are uneconomical in operation, are now used only at the time of the peak load, and should be replaced as soon as the finances of the company will permit. The gradual substitution of modern semi-convertible equipment for cars of the older types should ultimately make operation of most of the open equipment unnecessary and undesirable. For the most part, the closed cars can still be used for some years with advantage, especially if more of them are reconstructed for prepayment operation. The inspection department found motors, trucks and car bodies on the whole in fair condition, but painting and cleaning have been somewhat neglected, as well as minor repairs. Conditions were least satisfactory in this respect in the Palmer division.

The inspection department found that the company "has for several years past been severely handicapped by the limited amount of room and antiquated methods for repairing and caring for its equipment at the Carew street car barn" in Springfield. This condition has recently been remedied by the completion of new shops and a storage yard at Hooker street, and by the enlargement of repair facilities at Carew street. Improvement of such facilities is needed in the Palmer and Westfield divisions. The department reports that the present system in these divisions is "costly and unsatisfactory."

Most of the power used by the company has been generated at its own station at Margaret street in Springfield, and at the smaller station in Westfield. Power for the Palmer division has been purchased from the Central Massachusetts Power Company, and a portion of the supply for the Springfield division has also been purchased from the Turners Falls Power and Electric Company and the United Electric Company of Springfield. On April 2, 1917, a contract was entered into with the Turners Falls Power and Electric Company for a supply of power at low unit cost (about 1.1 cents per kilowatt hour, transformed) for the entire system, exclusive of the Palmer division, which may still be supplied by the Central Massachusetts Power Company. Under this contract, which goes fully into effect in December of

this year, the power stations at Margaret street and in West-field, both of which are old and obsolescent, will be purchased by the power company for \$530,000 in cash.

REVENUES AND EXPENSES.

The following table shows the operating revenue in each of the years since the final consolidation of adjoining properties, and the percentage of increase from year to year:—

YEAR ENDED —	Operating Revenue.	Increase.	Per Cent.
June 30, 1911,	\$1,789,900 96	—	—
June 30, 1912,	1,890,406 16	\$100,505 20	5.62
June 30, 1913,	2,089,515 00	199,108 84	10.53
June 30, 1914,	2,166,977 03	77,462 03	3.71
June 30, 1915,	2,124,293 63	42,663 40*	1.97*
June 30, 1916,	2,284,918 38	160,624 75	7.56
December 31, 1916,	2,399,698 61	114,780 23 ¹	5.02 ¹
December 31, 1917,	2,406,234 98	95,536 37	3.98

* Decrease.

¹ Six months.

Operating expenses and the ratio of expenses to revenue have been as follows:—

YEAR ENDED —	Operating Expenses.	Increase.	Per Cent.	Operating Ratio.
June 30, 1911,	\$1,233,680 28	—	—	68.92
June 30, 1912,	1,314,774 85	\$81,094 57	6.57	69.55
June 30, 1913,	1,492,870 05	178,095 20	13.55	71.45
June 30, 1914,	1,561,504 84	68,634 79	4.59	72.06
June 30, 1915,	1,571,873 74	10,368 90	.66	73.99
June 30, 1916,	1,748,093 33	176,219 59	11.21	76.51
December 31, 1916,	1,934,881 09	186,787 76 ¹	10.68 ¹	80.63
December 31, 1917,	2,365,879 32	430,998 23	22.27	94.81

¹ Six months.

It will be noted that expense has increased relatively much more rapidly than revenue, especially during the past three years. In 1917 operating expenses increased 22.27 per cent, while revenue increased but 3.98 per cent, so that the operating ratio reached the extraordinarily high mark of 94.81. Offsetting this,

to a slight extent, has been a decrease in taxes, due to the falling market values of the company's capital stock and the consequent lessening of the corporate franchise tax, as follows: —

YEAR ENDED —	Taxes.	YEAR ENDED —	Taxes.
June 30, 1911,	\$168,067 00	June 30, 1915,	\$134,295 84
June 30, 1912,	163,442 61	June 30, 1916,	123,549 63
June 30, 1913,	170,698 22	December 31, 1916,	139,735 70
June 30, 1914,	172,769 43	December 31, 1917,	117,144 83

ADDITIONAL REVENUE REQUIRED.

The company submitted evidence indicating the need of additional revenue amounting to \$618,278. This evidence was based upon an estimate of results from operation in the calendar year 1917 and may be summarized as follows: —

Estimated operating expense,	\$2,407,815
Estimated taxes,	153,000
Six per cent return on estimated investment of \$3,573,567,	514,400
Contingency allowance, 1 per cent of gross,	31,063
	<hr/>
Gross receipts should be	\$3,106,278
Estimated gross receipts,	2,488,000
	<hr/>
Additional revenue required,	\$618,278

Actual results from operation in 1917 are now available, and in the light of this knowledge the company's estimate may be analyzed to advantage.

(1) Operating expenses in 1917 were actually \$2,365,879, instead of the estimated \$2,407,815. The estimate, however, included reserve appropriations for depreciation, amounting to \$236,230, whereas the amount actually set aside for this purpose was but \$40,632, the deficiency amounting to \$195,598. On the other hand, the actual cost of power as produced during the year in the company's old power plants was \$572,288, whereas the estimated figures were based upon the cost which would have accrued under the terms of the new power contract, and amounted, exclusive of the depreciation item, to but \$387,200. Even this latter figure is excessive, for it was based upon an estimated use of 35,000,000 kilowatt hours, whereas the actual use during the year was but 33,175,429 kilowatt hours. Taking the latter amount, the cost under the new contract, exclusive of depreciation (included in the \$236,230 given above), would have been \$367,130. In determining the additional revenue required, upon the

basis of 1917 operations, it is fair to use this figure, for any increase in fares which may be granted will apply to the future, in which the company will have the advantage of the new source of power. Including, therefore, the additional amount estimated as necessary for depreciation, but allowing for the saving in power cost which will accrue under the contract, the operating expenses in 1917 become \$2,356,319, instead of the actual \$2,365,879.

(2) The actual taxes in 1917 were \$117,145, instead of the estimated \$153,000.

(3) The return, as figured by the company, was based, at the rate of 6 per cent, upon an estimated total investment at the end of the year of \$8,573,567. This was determined by taking all the assets at the beginning of the year, including current assets and unadjusted debits as well as permanent investments, adding estimated additions and improvements during the year, and subtracting the amount, \$530,000, which is to be paid by the Turners Falls Power and Electric Company for the company's generating stations in Springfield and Westfield. This method is open to several objections, and it seems to the Commission fairer to use the actual interest paid during the year upon bonds and floating indebtedness, and to compute, in addition, a return of 6 per cent upon the total par value of outstanding stock plus all premiums paid in thereon. Computed in this way, the total return becomes \$479,488, instead of the \$514,400 figured by the company.

(4) The contingency allowance of 1 per cent of gross receipts estimated by the company is not unreasonable. Upon the basis of the adjusted figures, however, it becomes \$29,828, instead of \$31,063.

(5) In estimating gross receipts for 1917, the company included \$30,000 for additional revenue, which, in its opinion, can be secured by changing the present system of transfer checks and thus reducing the abuse which is now possible. Adding this amount to the actual gross receipts in 1917, they become \$2,527,026, instead of the \$2,488,000 estimated by the company.

With these adjustments, the additional revenue required by the company may be set forth as follows:—

Actual operating expenses (adjusted),	\$2,356,319
Actual taxes,	117,145
Actual interest,	147,181
Six per cent return on stock and premiums,	332,307
Contingency allowance, 1 per cent of gross,	29,828
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Gross receipts should be	\$2,982,780
Actual gross receipts (adjusted),	2,527,026
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Additional revenue required,	\$455,754

The question arises whether this estimate of additional revenue required may be accepted as a basis for the consideration of the new schedule of rates proposed by the company. The answer to this question is dependent upon the following factors:—

- (1) The accuracy of the depreciation estimate.
- (2) The prospects with reference to traffic and operating costs in the immediate future, including the possibility of greater economy in operation.
- (3) The justice of the return allowed for invested capital.

Depreciation Requirements.

In estimating the necessary provision for depreciation, the company attempted to follow the precedent established in the Bay State rate case. The engineers employed by the company in that case made a thorough study of the entire property, including the probable lives of the various units, and based their allowance upon the results of this study, using the so-called "straight line" method of determination. The Commission accepted the property lives used in this estimate, but differed in regard to the depreciation on overhead charges and felt, for reasons fully stated in its opinion, that half of the total allowance should be figured on the "straight line" basis and half on the "sinking fund" basis. The amount as finally fixed equalled 2.67 per cent of the total amount of capital found to have been honestly and prudently invested, including both depreciable and non-depreciable property.

In the present instance, the company made no similar analysis, but based its allowance on general percentages derived from the Bay State figures, using the combined "sinking fund" and "straight line" basis, as follows:—

	Per Cent.
Road, track, line, etc.,	3.17
Rolling stock,	3.71
Power stations and equipment,	2.31
Shops, car houses and equipment,	1.92

Estimated in this way, the allowance equalled 3.01 per cent of the total book value of all property on December 31, 1916. In the figures as finally presented, however, the estimate for depreciation on power stations and equipment was reduced, because of the provision in the new power contract under which the Turners Falls Power and Electric Company will take over much

of this property for \$530,000, allowance being made merely for charging off the remaining book value during the thirty-year life of the contract.

An allowance for depreciation so determined can at best be regarded as but a rough estimate, for the property of one street railway company is not so similar to the property of another that a uniform percentage can safely be applied in the absence of careful investigation. And even if uniform conditions be assumed, two criticisms may still be made of this estimate. In the first place, the percentages were based upon the investment figures furnished in the Bay State case by the company's engineers, without taking into consideration the adjustments subsequently made by the Commission. This accounts for the difference between the 2.67 per cent upon investment in that case and the 3.01 per cent in the present instance. In the second place, in order to determine the additional amount required for depreciation over and above the amount expended in the previous year, the company's engineers in the Bay State case analyzed the maintenance accounts and deducted such sums as seemed to have been expended for renewals, which might, under the theory followed, have been charged against a depreciation reserve. No such analysis was made in the present case. Somewhat similar results were attempted by reducing the estimate submitted by the operating officials for certain maintenance items, upon the ground that these estimates included partial provision for depreciation, but little evidence was offered as to the basis upon which these reductions were made.

In the revised determination of additional revenue required, as set forth above, the actual maintenance expenditures in 1917 are used instead of the estimates submitted in advance by the company. Undoubtedly it is difficult to draw a line between ordinary repairs and minor renewals and those replacements of larger units of property which would be properly chargeable against a depreciation reserve; and to analyze the maintenance expenditures with this end in view requires, under present methods of accounting, a laborious examination of many work orders, requisitions and other company records. The company has submitted no evidence on this point, and the Commission has been unable to undertake such an analysis with the time and assistance at its command. Under the circumstances, an approximation is all that is possible. Disregarding maintenance expenditures on power plant and equipment, which will be considered

separately, the chief items which might include the cost of what may be called "depreciation renewals" are as follows:—

Ties,	\$9,624 96
Special work,	18,429 36
Track and roadway labor,	51,860 67
Paving,	12,011 61
Bridges, trestles, culverts,	3,861 73
Signals and interlocking apparatus,	7,194 65
Telephone and telegraph lines,	1,134 59
Poles and fixtures,	6,414 68
Underground conduits,	1,427 39
Distribution system,	34,571 57
Buildings, fixtures and grounds,	7,878 46
Passenger and combination cars,	119,433 92
Freight, express and mail cars,	1,723 21
Service equipment,	3,205 50
Electric equipment of cars,	95,332 17
Shop equipment,	1,309 95
Vehicles and horses,	5,108 73
<hr/>	
Total,	\$380,523 15

From such examination of the accounts of the company as it has been able to make, and in the light of its knowledge of the general nature of such maintenance expenditures upon street railway properties under present conditions, the Commission is convinced that by far the larger portion of this total expenditure of slightly more than \$380,000 represents ordinary repairs and minor renewals, such as are necessary to keep track, line, buildings, cars and other property items in fair operating condition. It is probable that the amount which would, under the theory of depreciation followed in the Bay State case, be chargeable against a depreciation reserve was not in excess of \$50,000. In view of the burden of proof upon the company, this is, we feel, a conservative and fair approximation.

On the other hand, in the case of power stations and equipment the company has included only an annual amount sufficient to charge off, in the period of thirty years covered by the new power contract, the book value not covered by the power company's payment. This property will, as we understand the situation, be completely abandoned as soon as the contract goes into effect and will cease to serve any useful purpose in the operation of the road. Under the circumstances, it seems to the Commission that thirty years is too long a time in which to charge off

the balance from the property accounts, and that it would be better to complete this process in not exceeding ten years. If this were done, the annual charge would be increased from \$14,830 to \$44,489, the difference being \$29,659 per year.

Summing the matter up, the estimate of depreciation requirements submitted by the company is merely an approximation. While it has been based upon percentages derived from the more careful analysis in the Bay State case, an error was made in the process, which, if corrected, would reduce the estimate by about \$25,000. It is also probable that the maintenance expenditures in 1917 included at least \$50,000 providing for depreciation, in addition to the amount specifically set aside for that purpose. On the other hand, the yearly amount estimated for the charging off of power property is too low by \$29,659. The conclusion is that the further appropriation for depreciation, which we have included above in determining additional revenue required, is too high by about \$45,000. This conclusion is based upon the somewhat inadequate evidence before the Commission and neither the company nor the remonstrants will be precluded from submitting further evidence in any future proceedings for the purpose of showing that a different conclusion should be reached.

Determination of depreciation requirements is not an exact science, but an estimate of probabilities based on past experience. Conditions at present are very abnormal. The provision for depreciation estimated, if reduced by the \$45,000 above indicated, will still be largely in excess of any provision made by the company in recent years and, indeed, at any time in the past, so far as is shown by its public returns. The total depreciation reserve accumulated from past operations amounts to but \$128,126. Under the circumstances, the allowance is generous. If earned, the company would be justified, so long as war conditions continue, in using it at once for such rehabilitation — in other words, for the replacing of wornout or inefficient property — as may be necessary or desirable, without undertaking to set up, for the present, the reserve fund for future needs which should, theoretically, be created.

Revenue and Expense Prospects.

As shown by the table already presented, operating revenue increased in 1917 a little less than 4 per cent. In view of conditions in the territory served, this percentage was very low. Springfield has been a center of munitions activity, and without

doubt there has been a substantial influx of population since the war began. In addition, the presence of troops at Camp Bartlett has materially increased traffic on the Westfield line. Under the circumstances, the increase in revenue has been much less than might have been expected. It is true that the company has suffered from active jitney competition in the central Springfield district, but this was greatly restricted during the latter half of the year by an ordinance passed by the city government. Notwithstanding this competition, it seems to be generally agreed that traffic on many lines has been very heavy and that the overcrowding of cars during rush hours has for some time constituted a grave abuse.

It is probable that poor service has had an appreciable effect in limiting revenue. The following figures are significant:—

YEAR ENDED —	Car Miles.	Car Hours.	Miles per Hour.
December 31, 1916,	8,814,577	957,549	9.21
December 31, 1917,	8,677,009	965,434	8.99

In 1917 the number of car miles operated, representing accommodations afforded the public, decreased, while the number of car hours operated, representing the labor involved in providing the accommodations, increased. Since 1913 the number of car miles operated per car hour has steadily decreased from 9.85 miles in that year to 8.99 miles in 1917. This is a poor record and, while it is no doubt true that the company has been the victim of conditions, it is equally true that this is one of the reasons why its expenses have increased so rapidly and its revenue relatively so slowly. Overcrowding of cars not only discourages traffic but hinders the collection of fares and makes it difficult to secure full compensation from those who do ride. Undoubtedly there is much latent traffic and revenue which the company is not getting. If jitney competition is kept under proper restriction, either by municipal or state regulation, and if the company finds it possible to provide better service, the possibility of adding to its income merely through the growth of traffic is large. The twenty cars recently acquired should help to bring this about and, if the company is able to secure still further new equipment and to make the improvements in operation in the congested central district which are discussed below, still more can be accomplished.

Aside from operating economies, prospects with reference to expense are dependent upon the future course of wages and prices. The present agreement with the men expires in June of this year and, while the wages paid by the Springfield company have always been relatively high in comparison with most Massachusetts companies and have risen rapidly in the past few years, it is reasonable to assume, under present conditions, that a further increase will be made this summer. It is possible, however, that a change in the method of payment might be made which would compensate, in part, for such an increase. The Springfield company is distinguished from all other street railway companies in Massachusetts and, indeed, throughout the country, by the fact that it pays its men by the day, rather than by the hour. Other companies frequently have a minimum daily wage, but in no other instance, so far as we are aware, does a man receive the same pay each day, whether he works one hour or nine. If the wages of this company could be put upon the hourly basis, following the usual practice, even if a comparatively high minimum daily pay were established, the closer adjustment of compensation to actual work performed would be of distinct advantage.

So far as prices of materials and supplies are concerned, no one can, of course, predict the future with confidence, but with more stringent government regulations in effect it is possible that the maximum limit may have been reached. The company may suffer some increase in operating expense, due to the fact that up to the present it has been able to draw certain supplies from stock accumulated when prices were lower. The advancing prices, however, have affected street railway companies more seriously in the case of fuel than anything else, and the Springfield company will be relieved from this burden as soon as the new power contract goes fully into effect.

In this connection it may be argued that the revised determination of additional revenue required, above set forth, is unfair to the company, because it is based upon operation under the new power contract, which may not go wholly into effect until December of this year. It is true that one important reason for the poor financial showing of the company in 1917 was the large cost of power, produced in inefficient power plants with poor coal purchased at a high price, and that the company is not likely to enjoy, during the current year, the full benefit of the reduced operating cost which the new contract will make

possible. On the other hand, it is not desirable that an increase in fares, substantially larger than the evidence would otherwise warrant, should be made merely for the purpose of meeting a situation which is now being remedied by other means and will be entirely remedied before the year is over. The company itself recognized this fact, for its own estimate of additional revenue required was based upon operation under the new power contract, rather than under present uneconomical power conditions.

Operating Economies.

It remains to consider whether expense can be reduced by economies in operation or management. Much evidence on this point was submitted, both by the company and by the remonstrants. Early in 1917 the company employed Albert S. Richey, an electric railway engineer of Worcester, to make a traffic survey and general report on street railway operation in the Springfield district. His report, which was made to the company in April, was later filed as an exhibit in the form of a printed pamphlet of 116 pages, accompanied by a large number of tabulations, records of observations and graphic charts. As a part of his investigation, a detailed traffic survey was made of operations on every line in the district in question during two weeks in January and February. Since the traffic of the company has little seasonal variation, it was felt that these observations were sufficiently typical. As a result of his study, Professor Richey made various recommendations, with a view either to the improvement of the service or to greater economy in operation. Later in the proceedings, various cities and towns in the territory surrounding Springfield employed John P. Fox, a traffic and transportation expert of New York City, to examine the property and present methods of operation. In his study Mr. Fox was necessarily much more limited, both in time and in the resources at his command, than Professor Richey, but he also submitted a report containing numerous recommendations.

These various suggestions, which have thus been brought to the attention of the Commission, may be divided into two classes: Those which can be made with existing facilities and those which require the expenditure of new capital. With respect to the first class, the following may be said: —

(1) With the limited equipment now available and the heavy traffic in the Springfield central district, the problem immediately confronting the operating officials of the road is to make the cars do as much work as pos-

sible. In 1917 the figures already presented show that they actually did less work than in 1916, car miles decreasing and car hours increasing. Such a tendency as this ought to be corrected. Perhaps the factor of most vital importance is existing congestion in the neck of the bottle along Main street, the central business thoroughfare of the city. Delay and bunching of cars at this crucial point slow down the whole service, roll up expense and decrease revenue. Important recommendations for the correction of this condition were made by Professor Richey, involving action both by the company and by the municipality. Progress has been made along the lines indicated, especially since the hearings closed, but the city and the company have been slow in appreciating the importance of this matter and the necessity in the public interest of dealing with it vigorously.

The parking of automobiles on the street in the congested territory should clearly be prohibited. Traffic regulations should be adjusted and enforced in every feasible way to facilitate street car operation. Provision should be made for safety zones and multiple-berth stops, and the company should station street officials at the worst points to help the city traffic officers and accelerate the loading and unloading of cars, perhaps using these men also as outside, front-end fare collectors for the prepayment cars. Nearly all these changes were suggested by Professor Richey, and steps are now being taken to carry them into effect. There should be no real difficulty in securing the necessary co-operation between the public authorities and the company, if both realize the advantages to be gained. The present overcrowding of cars in rush hours is so serious a public abuse, and the cost to the company of delayed service is so great, that all basis for controversy disappears. Nothing will better repay all parties concerned than immediate steps to relieve congestion and facilitate car movement on Main street.

(2) Allied to this is reduction in the number of stopping places. At the time when Professor Richey's report was made, the average spacing between stops was 412 feet, and on many lines less than 300 feet. Considerable improvement has been made since then, but apparently the opportunities have by no means been exhausted. The fact that limitation of stops expedites service, enables cars to perform more work in a given time and passengers to travel more rapidly to destination, and saves power and fuel as well, has been amply demonstrated by the experience of other companies. The public authorities in Cleveland point with pride to the changes of this character in that city. Similar changes are about to be inaugurated in Washington, to relieve the congestion caused by the sudden influx of war population. It is known that the United States Fuel Administrator is considering an order, for the purpose of conserving fuel, restricting stops to eight per mile in urban districts, six per mile in suburban and four per mile in interurban territory. Compared with this, Professor Richey's recommendation that the spacing throughout the settled residential districts be made to conform as closely as possible to a 400-foot minimum and a 500 to 600 foot maximum is conservative. Even if the spacing were

made 800 feet, the maximum distance that any person located on a car line would have to walk to take a car would be but 400 feet, and even this inconvenience could be reduced by staggering the stops, so that cars going in one direction would make stops midway between those made by cars going in the opposite direction. Without doubt changes can be made whose net result will be improvement in service and substantial saving of expense.

(3) In 1917 the company consumed 3.82 kilowatt hours of electricity for every car mile operated. This seems high. Apart from character and condition of line and motor equipment, the amount of power used depends largely upon the instruction of motormen. Many companies have been able to effect substantial savings by encouraging the men to use the controller in the best way and to coast as large a proportion of the time as possible. Various methods have been used in such campaigns, and the results have been sufficiently favorable so that this means of economizing has attracted wide attention in the industry. It does not appear that the Springfield company has as yet given this matter the consideration which it deserves. The same may be said of instruction in more rapid acceleration and braking. If these are slow, the effect, as Professor Richey states in his report, is precisely the same as an increase in the time of stop. His recommendation that a campaign of education be carried on among the motormen for the purpose of improving present practice has not been followed.

(4) Another method of economizing and of adjusting service to traffic needs is the operation of so-called "short-line" cars. This means that on longer lines extending from a thickly settled central district into more sparsely settled outlying territory certain cars are operated only part of the way and are then turned back. By this means more frequent service is given where it is needed, without oversupplying the rest of the line. Often the long-haul traffic is segregated and given quicker service by operating the through cars "express" in the territory where the short-line cars are operated. Recommendations that adjustments of service of this character be made were included in Professor Richey's report, and to a certain extent have been followed. It is probable, however, that more can be done along these lines. While the company, owing to the day rate of pay, can save less expense in this way than is ordinarily the case, it can utilize its cars to better advantage and improve service where improvement is most needed.

(5) Mr. Fox suggested that the company take one car out of service on each city line during slack hours. The saving which could be effected in this way would be minimized by the day rate of pay, but undoubtedly there would be some saving. The company should, on an average, furnish at least a seat for every passenger in the non-rush period, but Professor Richey's survey indicated that the service can probably be somewhat reduced during this period without departing from this standard. It ought not, however, to be reduced in the arbitrary manner contemplated by Mr.

Fox. The latter also suggested that the 53 single-truck box cars in the Springfield division might be used in the rush hours as trailers, after removing their motors and electric equipment. With cars properly designed for the purpose, the principle of trailer operation is sound, but the Commission is not convinced, upon present evidence, that the use of these old cars in the manner suggested is either safe or otherwise desirable. It would do no harm, however, to prepare one car for such use in order that careful tests might be made.

(6) The cost of maintaining equipment in the past two years has been high, owing to inadequate car house and shop facilities. It has been even necessary at times to have work done under contract by outside concerns. The opening of the new Hooker street car house, however, and the improvement of the repair shop at Carew street, have changed this situation, and the opinion was expressed by Professor Richey in his report that the item of car maintenance would be considerably reduced during the current year.

(7) One item of operating expense which has been exceedingly high in the case of the Springfield company has been the amount charged for "Injuries and Damages." The following table shows the percentage of transportation revenue charged in recent years for this purpose by the ten largest companies of the state:—

COMPANY.	YEAR ENDED —			
	December 31, 1916.	June 30, 1916.	June 30, 1915.	June 30, 1914.
Bay State,	4.10	4.12	4.23	4.33
Berkshire,	1.65	2.75	4.85	4.33
Boston Elevated,	4.85	4.75	4.70	4.34
Boston and Worcester,	2.68	2.44	2.22	2.57
Holyoke,	4.00	.58	5.81	6.47
Massachusetts Northeastern,	3.44	3.45	3.45	4.92
Middlesex and Boston,	4.27	4.26	3.45	3.47
Springfield,	7.40	7.63	7.06	6.61
Union,	2.81	2.87	2.87	2.86
Worcester Consolidated,	5.00	5.00	5.00	5.73

Comparative figures are not available for 1917, but in that year the Springfield charge advanced from \$175,658.44, the amount in 1916, to \$227,691.83 equal to 9.23 per cent of transportation revenue, an extraordinarily high percentage. Additional light is thrown by the following table, compiled from statistics furnished to the Commission in the year ended December 31, 1916, showing the number of accidents per one million car miles operated:—

	Springfield.	Boston Elevated.	All Massa- chusetts Companies.
Killed, . . . . .	.9	1.4	1.1
Injured,	131.8	86.6	103.1
Boarding and alighting accidents,	95.4	79.6	81.4
Total accidents reported,	405.7	340.7	320.3

It is difficult to believe that the charge for "Injuries and Damages" will remain, in the case of the Springfield company, at the height which it reached in 1917, or that it is impossible by better methods of operation to reduce it below the 1916 level.

(8) In his report Professor Richey pointed out that with the present form of transfer the privilege may easily be misused, since one form of transfer is used for all lines in the city. Good practice demands, he felt, that a separate form of transfer be used for each route, and preferably a separate form for each direction on each route. In a neighboring city similar changes and a more rigid enforcement of transfer regulations resulted in a net decrease of about 15 per cent in transfer passengers. Assuming results only one-half as favorable in Springfield, he estimated that the revenue of the company could, in this way, be increased some \$30,000 per year, an estimate which he regarded as "very low." Although this recommendation was made in April, 1917, it has not been carried out. In the revised determination of additional revenue required given above, however, allowance has been made for a \$30,000 gain from this source.

Passing to the second class of operating economies and improvements, where new capital is required, numerous suggestions were made to the Commission, chiefly involving the construction of new tracks or the purchase of additional equipment. In the past few years the company has made good progress in placing the property in physical condition for efficient operation. The unsatisfactory power situation, which was growing worse every day, has been corrected by the new contract, so that there is now assurance of a reliable supply at a favorable rate, as well as of the disposition of much of the present power property. Bad car house and shop conditions in the Springfield division have also been improved, and it remains only to make similar improvement in the Westfield and Palmer divisions. Track conditions have been bettered, although there is still a good deal to be done in this direction. The company has also made progress in modernizing its equipment, and now has a fair number of cars of the semi-convertible and prepayment type.

Aside from the maintenance work necessary to bring roadbed and track to first-class physical condition, additional tracks are needed at various points. No detailed survey has been made by the Commission enabling it to specify the exact work of this sort which should be done, but undoubtedly double-tracking is desirable on certain streets and would enable the company not only to furnish better service but to operate with enhanced economy. It may also be advisable to lay track on streets where the company now has no locations, to relieve Main street of a portion of its burden and to make suitable connections with the proposed new bridge over the Connecticut river.

Improvements are even more desirable in the case of equipment. The company needs more cars, and it should also provide for the gradual replacement of rolling stock of obsolete type with more modern and economical equipment. On certain lines, either trailers or two-car trains with multiple-unit control can be operated with economy and general public advantage. The same may be said of one-man cars. In the course of the proceedings there was much discussion of this particular type of equipment. Mr. Fox went so far as to urge that existing cars be quite generally operated with one man, by closing up the rear door and making other minor changes. In view of the heavy traffic and the present accident record, the Commission is unable to endorse this suggestion, but clearly one-man car operation deserves very serious consideration by this company. There are lines in the Palmer division on which the service is now very infrequent and inferior, where one-man cars could probably give better accommodations at lower expense, and this is true of the Westfield division and doubtless of certain lines in the Springfield division. It is also possible that the company may have cars which can be reconstructed satisfactorily for this purpose at relatively small expense, without investing in wholly new equipment. The Commission strongly advises that this question be given immediate and careful attention.

Summing up the matter of operating economies, there is, we believe, much that the company can do with its present property, and without spending additional capital to improve service and at the same time save expense and increase revenue, especially if it is given proper municipal co-operation. If the revenue is sufficient, there are replacements of cars and other property which should gradually be made which will add still more to economy and efficiency of operation. If the credit of the com-

pany can be restored, additions and improvements can be made with new capital which will tend in the same direction. So far as these changes are dependent upon the expenditure of substantial sums of money, they must await the strengthening of the company's financial condition. The economies and improvements of service which can be made without such expenditure, however, should be amply sufficient to offset any increase in expense which may come during the current year from advances in wages or in prices of materials and supplies. Neither possibility can be accurately appraised, but the opportunities to reduce expense and increase traffic and revenue are substantial and, if they are followed up vigorously, good results should be achieved.

Return on Investment.

The final question affecting the estimate of additional revenue required is whether the allowance made for a return on invested capital is reasonable. In view of the continuous public supervision under which the outstanding securities were issued, and the comparatively low capitalization per mile, the conclusion may fairly be reached that these securities originally represented capital honestly and prudently invested, upon which the company, following the precedents established by the Commission in previous cases, would be entitled to a full return. The only question is how far this conclusion should be modified, if at all, by the existing depreciation of the property.

The general rule followed by the Commission has been to make no deduction for accrued depreciation, in fixing the basis for a return, unless failure to provide for it has been due to the payment of unwarranted dividends, or some other form of mismanagement; and the expression "unwarranted" has been interpreted to mean dividends greater than what has been termed an "investment rate on money" (see Holyoke Rate Case, 5 P. S. C. Rep., pp. 91, 92). In this instance the company for many years, and until 1911, paid dividends of 8 per cent. Beginning in 1896, however, premiums were paid in on the issue of new stock, so that the return on the actual cash invested has been materially less than 8 per cent. Since 1900 it has been less than $6\frac{1}{2}$ per cent; since 1907, less than 6 per cent; and in the past 21 months, less than $1\frac{1}{2}$ per cent. A substantial amount of the stock was issued at the high price of \$170 per share. While the company, therefore, can by no means be absolved from blame for its failure to provide adequately for depreciation, there are mitigating circumstances. In view of the prices at which stock

has been issued, the company would, aside from this question of depreciation, be fairly entitled to maintain a rate of 8 per cent on par. In the revised estimate of additional revenue required, allowance has been made, instead, for a stock return of 6 per cent on total cash invested — the equivalent of about 7.1 per cent on par. In view of all conditions, this might well be regarded as too liberal; but there is so much uncertainty as to the revenue which any increase in rates will produce and the actual results in other cases have so generally fallen below the estimates that, for present purposes, it may reasonably be allowed to stand.

Summary.

Summarizing this phase of the matter, our conclusions, so far as the estimate of additional revenue required is concerned, are as follows: —

(1) The further allowance for depreciation, over and above the amount expended or set aside for this purpose in 1917, which is included in this estimate is too high by about \$45,000.

(2) While there is reasonable prospect that expense may be relatively increased in the current year, by reason of advances in wages and prices, the opportunities for reducing expense and increasing traffic, without the use of additional capital, are at least a sufficient offset.

(3) The return on invested capital allowed in the estimate is not less than is fair and reasonable.

For the purpose of considering the increase in fares proposed by the company, the amount of additional revenue justly and reasonably required may, therefore, be placed in round figures at \$400,000. In view of the probability that the present General Court, upon recommendation of the Street Railway Investigation Commission, may at least reduce the burden imposed by the present excise tax and subject jitney competition to state regulation and restriction, this estimated amount may be regarded as liberal.

Financial Results by Divisions.

Upon request of the Commission, evidence was submitted by the company as to the financial results from operation in the three divisions. No such segregation is made in the accounts kept by the company, but a special study was made for the purpose of developing this information for the year ended June 30, 1916. The investment in the Palmer division was separated by taking the capitalization of the Springfield and Eastern Company, at the time of consolidation, and adding additions and improve-

ments made in that division since that date, and a similar process was followed in the Westfield division, starting with the capitalization of the Western Massachusetts Company at the time of consolidation. Receipts and expenses in many cases could be accurately apportioned, but it was necessary to pro-rate certain items on a car mile or other suitable basis. The following table shows the investment in each division; the income available for a return upon the investment, either in the form of interest or of dividends; and the percentage relation which this income bears to investment: —

DIVISION.	Investment.	Income.	Per Cent.
Springfield,	\$5,348,745	\$350,768	6.56
Westfield,	1,033,235	36,311	3.50
Palmer,	1,513,672	23,054	1.85

The striking thing about this table is that it shows that the Springfield division, notwithstanding the long rides which are possible for the 5-cent fare, was producing very fair financial results as recently as the year ended June 30, 1916. It also brings out very clearly the fact that the share for share consolidations with outlying roads, effected under the auspices of the New York, New Haven and Hartford Railroad Company, have been one of the chief causes of the financial difficulties of the Springfield Street Railway Company.

Certain evidence was offered by the remonstrants tending to show that the lines in the outer divisions pay better than the above table would indicate. This evidence, however, was based on car hour earnings, which are often misleading unless considered in connection with car mile earnings and earnings per mile of track. While the figures given above are only approximations, the history of the Springfield and Eastern and the Western Massachusetts companies, together with the present showing of lines similarly located in other parts of the state, leads the Commission to believe that they may be accepted as reasonably correct.

THE INCREASES IN FARES.

From the conclusions already reached it will be seen that the problem before the Commission is to permit this company to increase its fares in such a way that it may have reasonable expectation of securing about \$400,000 additional revenue and, at

the same time, to spread this burden equitably among its patrons. It will also be seen that this problem has two clearly defined phases. The situation in the Palmer and Westfield divisions, with their interurban and rural lines, differs radically from the situation in the Springfield division, and the method of treatment proposed by the company is not the same.

Palmer and Westfield Divisions.

The method of raising fares proposed in these outlying divisions is to increase the unit rate from 5 cents to 6 cents and abolish most of the existing overlaps. The latter change would cause passengers to pay a double or a treble fare in certain cases where they now pay a single fare. The company estimates that the gain from the introduction of the 6-cent rate would be \$39,426, and from the abolition of the overlaps, \$22,024, — a total of \$61,450. In preparing this estimate, allowance was made for a loss of 8 per cent in riding, where only the increase in unit fare would be involved, and a loss of 15 per cent where the payment of an additional fare would be necessary. Judged by the experience of other companies, these allowances are not excessive. The estimate was based, however, on the riding in the year ended June 30, 1916, and the passenger revenue of the company in 1917 was $8\frac{1}{4}$ per cent larger. Assuming this to be the measure of the increase in these two divisions, the total estimate becomes \$66,559, instead of \$61,450.

Even upon this revised basis, it is evident that the increase is not too large from a revenue standpoint. If the income of the company in these two divisions had been \$66,559 larger in the year ended June 30, 1916, it would have earned, according to the table already presented, only a little more than 5 per cent on its investment, and this makes no allowance for depreciation requirements and the subsequent advance of wages and prices. It is also evident that an increase in the unit fare alone, from 5 cents to 6 cents, would produce most inadequate results. Without the abolition of overlaps, the estimate of gain would be reduced to \$42,603.

The abolition of the overlaps, however, would have very undesirable and unjust consequences. Taken in connection with the increase in the unit fare, it would mean that for certain rides, although the distance traveled might be small, the charge would be increased from 5 cents to 12 cents. In a few cases, for longer rides, it would be increased from 5 cents to 18 cents. It needs

no argument to prove that such increases as these would be greatly resented by the population served. Disregarding considerations of equity, it is at least doubtful whether the result would be advantageous to the company. The traffic loss of 15 per cent, which has been estimated, is conservative. Rather than pay a fare 140 per cent or, in some cases, 260 per cent higher, patrons would in many cases walk where they now ride, and if any considerable number of workingmen were affected at any point, jitney competition would almost surely develop.

The existing overlaps, it seems, have come into existence gradually and by a very natural process. There is nothing unusual about them, for they are found on practically all lines in the state where there are successive zones in each of which a 5-cent or larger fare is charged. They are the only means, under such conditions, whereby the injustice can be avoided of charging a double fare for short rides from one zone to another. On the other hand, if they are not to be abolished, and if the existing system of charging is to be preserved, the only possible means of securing the additional revenue necessary in these divisions is to increase the unit fare beyond 6 cents, to 7 cents or even to 8 cents, an expedient which experience has shown to be of doubtful wisdom.

Faced by this situation, the only other alternative is to adopt an entirely different system of charging. As a matter of fact, there is very little to commend in the present system. It is full of inconsistencies and discriminations and has no logical or scientific basis. The fact, already stated, that in the Palmer division the zones vary from 7.42 miles to 1.7 miles in length, and in the Westfield division from 9.09 miles to 1.05 miles, is sufficient evidence of this fact. The abolition of the overlaps would merely make a situation which is already bad considerably worse. The new system of charging which is being introduced gradually on interurban lines in this commonwealth and elsewhere is far more logical and has the advantage of causing each passenger to pay for approximately the service that he receives, and no more.

Under this system, which has been called the "copper zone" plan, the road is divided into sections of approximately one mile each, and rates are based on a certain charge per section. Usually this is 2 cents, but it may be made $1\frac{1}{2}$ cents or $2\frac{1}{2}$ cents, or, indeed, any other rate. When the passenger boards a car he tells the conductor his destination and pays a fare based on the distance to be covered, receiving a voucher in return. Thus, if

his journey is within five different sections and the rate is 2 cents per mile, he pays a fare of 10 cents. Usually a minimum fare is established of 5 cents or 6 cents. At the end of his journey the passenger surrenders his voucher.

The advantages of this plan are obvious. Instead of progressing in violent jumps of 6 cents each, as under the system proposed by the company, fares would gradually advance, according to the distance traveled, by small steps, so that between 6 cents and 12 cents there would be, for example, intermediate fares of 8 cents and 10 cents. A disadvantage, on the other hand, is that it imposes a somewhat difficult task upon the conductor in the collection of fares, and one that is particularly difficult when open cars are used, or if a large number of passengers board the car at any one point. It cannot be said that the plan is yet beyond the experimental stage, but the experiment is promising, and one, in our judgment, which very clearly deserves encouragement.

In the present instance, the inconsistencies and disadvantages of the system now in use are so great, and would be so accentuated by the changes proposed by the company, that there is more than ordinary reason for trying this new plan. In the judgment of the Commission it should be adopted, at least for a trial period. What the results would be from the revenue standpoint it is impossible to estimate from any data now in the possession of the Commission. If the rate were placed at 2 cents per mile, the average charge per mile for through traffic on the interurban line from Brimfield to Springfield would be higher than the 1.74 cents under the plan proposed by the company. On the similar line from Westfield to Huntington it would also be slightly increased. On the other hand, the mileage plan would reduce the charge for many local rides, particularly in the town of Palmer; but there should be less falling off in riding. Upon the evidence, the company might be justified in placing the rate somewhat higher than 2 cents per mile, or in securing equivalent results by making the length of the zones somewhat shorter than one mile. We believe, however, that it would be wiser to inaugurate the new system, with the exception noted below, upon the basis of a straight rate of 2 cents per mile, with a minimum charge of 6 cents for any ride covering not more than three zones. Experience has shown that it is difficult to secure substantial increases in revenue from lines of the character which make up these two divisions, and that, when rates are placed too high, the increase may prove largely theoretical.

Departure from a uniform application of the plan should, in our opinion, be made in one respect. The town of Westfield is large enough to deserve treatment following the urban practice. In other words, it is entitled to a uniform fare, with free transfer privileges, within a territory reasonably limited. As a matter of fact, it would be difficult to apply a mileage zone plan to the short local lines in this town. Our recommendation, therefore, is that Westfield be given a uniform local fare of 6 cents, covering all short lines in the thickly settled district, extending as far as the town boundary on the line to Springfield, as far as St. Mary's Cemetery on the line to Holyoke, and approximately three miles out on the line to Huntington. In laying out a system of this sort, it is often desirable, instead of measuring off the miles with mathematical accuracy, to make certain adjustments, so that the limits will fall at convenient points, making the zones slightly more than one mile in length in some cases and slightly less in others. In preparing its tariff, such adjustments may be made by the company, subject to the approval of the Commission. Provision should also be made in the tariff so that, in journeys between points in the Springfield division or the Westfield 6-cent zone and points in mileage territory, the minimum fare shall not apply in the latter. In riding from a point in the center of Westfield, for example, to a point in the first mileage zone on the Huntington line, the fare should be 6 cents plus 2 cents, or a total of 8 cents, rather than 6 cents plus the minimum mileage fare of 6 cents, or 12 cents in all.

Springfield Division.

In the Springfield division, comprising the city of Springfield and the adjoining territory within the present single fare limits, the company proposes an inner zone and an outer zone, in each of which a 5-cent fare would be charged. This proposal aroused intense antagonism from the city of Chicopee and the towns surrounding Springfield, and it was strongly urged at the hearings that a straight 6-cent fare within the present limits, or even a higher fare, would be vastly preferable to the plan proposed by the company. Before taking this matter up in any detail, therefore, it will be well to consider whether or not any plan of this general character, embodying the introduction of some new zone or zones, is desirable.

The present 5-cent fare territory is undoubtedly very large. There is no city in New England, except Boston, which compares

with Springfield in this respect. Longer rides can be obtained for a nickel, indeed, than in many cities throughout the country with much larger populations. Conditions have, in many respects, been very favorable for such development. In the case of the lines running to Chicopee, for example, large centers of population exist at both ends, and in between there is opportunity for comparatively high speed operation. In the rush hours, traffic moves in almost equal volume in both directions. Similar conditions exist on the lines to Holyoke, Westfield and Indian Orchard. The chief factor, however, which makes long rides possible is the short-haul traffic. While the company's estimate that the average passenger rides, including transfers, but 2.88 miles, was based on observations covering the operations of but one day on each line, allowance may be made for a large margin of error without affecting the conclusion that the short-haul rider really pays for the long hauls, and that without him the broad expansion of the 5-cent fare area would have been impossible.

Objection to the introduction of any form of "zone system" and to the limitation of the present uniform fare plan of operation in the Springfield division seems to be based, very largely, upon the feeling that, if the company needs additional revenue, the burden ought not to be thrown entirely upon the outlying territory, and that the central district of Springfield ought to carry its share of the load. While this feeling is not unnatural, it arises from a misconception of the situation. A "zone system" would retain the 5-cent fare for the shorter rides, not only in the central district, but in the outlying territory as well. People living in Chicopee or Indian Orchard, for example, could reach their local mills and stores without paying an increased fare. On the other hand, those who live in the inner zone and work in the outlying territory would pay an additional charge in exactly the same way as those who live outside and work or do business in the central district; and the evidence indicates that on some lines, at least, there is about as much movement of this character in one direction as in the other. In other words, the burden under the "zone system" would be thrown upon the long rider, as distinguished from the short rider, rather than upon the people living in any particular territory, as distinguished from those who reside in another. If the inner zone derived any relative advantage from the introduction of such a system, it would be due to the fact that there happens to be a larger proportion of short-haul riding in that territory.

It was also urged that the suburban territory has been built up under the uniform fare system, with the understanding that this system was established and not likely to be disturbed; and that, under the circumstances a departure from this system would be unjust and prejudicial to those who live in this territory, and especially to the owners of real estate. The fear that a "zone system" would have any substantial influence upon land values in these districts is not, we believe, well founded. But even if it should have such an effect, it is no doubt a fact that the extension of street railway lines into this territory materially increased these values in the past, and that land owners have enjoyed and profited by this "unearned increment." If they should be deprived of some slight measure of this increment by an attempt to apportion the mounting cost of street railway service more nearly in accordance with the service furnished, they would have no reasonable ground of complaint. There has, in this instance, been no contract that fares would continue for any period of time upon the uniform basis, such as has existed in the Boston district.

The substitution of a 6-cent fare for the present 5-cent fare in the Springfield division would undoubtedly be the easiest and simplest method of dealing with the situation, and it is quite possible that it might meet with less open and immediate criticism than any other. It is also true that there are difficulties in the application of a zone system, and that no practicable system of fares can be devised which will be entirely free from inconsistencies or minor discriminations. The rates and charges of every public utility, whether privately or publicly operated, are open to such criticism to a greater or less extent; and this cannot wholly be avoided. The duty of a supervising commission is to adjust rates, so far as it can, in the way which will produce the best net results for the community, considering not only the present but, to a reasonable degree, the future. The easiest way is not always the best, and experience has shown pretty clearly that there are serious objections to a straight increase in fare in urban territory, such as is included within the Springfield division.

Short-haul traffic is the most profitable that a street railway company can have, and it is also the traffic that is most difficult to secure and retain, and the most sensitive to poor service or unfavorable rates. It is a simple matter for most short riders in cities to walk, rather than use the cars, and jitneys can carry

them with profit at a 5-cent fare, if the street railway is not in a position to do so. However willing the general public may be to concede that a street railway company is entitled to additional revenue, and however trifling an increase in fare from 5 cents to 6 cents may appear in comparison with the advance in prices of most commodities in common use since the war began, experience has seemed to demonstrate, and street railway managers are very generally of the opinion, that such an increase discourages short-haul riding, encourages competition and appreciably diminishes the kind of traffic which it is particularly desirable to attract.

The importance to the public, as well as to the company, of doing everything that can be done to hold and increase this short-haul business is obvious. Looking into the future, such business may be the determining factor which will make possible a general reduction of fares or, if conditions become still more unfavorable, prevent a further increase. The best means of developing it is, clearly, to retain a low minimum fare. If a straight raise to 6 cents were made, and results did not prove satisfactory, the next step would be a 7-cent fare, which would have an even more unfavorable effect upon short-haul traffic. On the other hand, a 5-cent fare is convenient and popular, encourages riding and is an excellent weapon with which to meet jitney competition.

If there was anything inherently unjust in retaining a 5-cent minimum, the considerations thus mentioned would have less weight. Equity, however, seems chiefly on its side. The short rider has been discriminated against, up to the present time. Five cents is ample, in urban territory, to cover the cost of this service, and if a readjustment should be made which would retain that fare for the shorter distances and require the long-haul rider to pay a charge more nearly proportional to the cost of carrying him, certainly no injustice would be done. Under the circumstances the Commission is of the present opinion that some form of "zone system" will, on the whole, produce better results for the community than the adoption of a uniform 6-cent fare. We realize the practical difficulties in the application and operation of such a system, and that experience as yet is so limited that no one can positively affirm that expectations will be realized. The theoretical advantages, however, are sufficiently important so that we feel that the experiment should be tried, upon the clear understanding, however, that it is an experiment, subject

to future change if, at the end of a reasonable period of time, results are not what they should be.

Approval of the introduction of a "zone system," however, is not the same thing as approval of the particular "zone system" which the company has proposed. The plan contained in the schedule filed is objectionable in vital respects.

In the first place, if the estimate of the company is correct, this plan would produce substantially more revenue than the amount which has been shown above to be reasonably required. The estimate is \$477,762, and this was based on the traffic in the year ended June 30, 1916. Using the traffic in the calendar year 1917, the amount is increased to nearly \$520,000, — to be secured from this one division. The Commission's estimate of additional revenue required is \$400,000 for the entire system. Assuming that \$60,000 can be obtained from the outlying divisions, this makes the amount assessable against the Springfield division about \$340,000, a considerably smaller sum than that contemplated by the company.

In the second place, the zone plan proposed is not well-considered. The fare jumps abruptly from 5 cents to 10 cents, without any intermediate gradations, creating the same undesirable conditions which have led to the development of the overlapping zones in the Palmer and Westfield sections. So far as we are aware, this is the first time that an attempt has been made in this country to split an urban single-fare territory in this somewhat violent fashion. The advisability of progressing by comparatively small steps from the minimum to the maximum fare has very generally been recognized.

It is not difficult to eliminate the company's plan from consideration, but it is more difficult to determine upon a proper substitute. The first necessary step is to fix upon the limits of the inner zone. The central district, in our judgment, ought to carry somewhat more than its share of the load. While certain of the surrounding municipalities have clearly defined industrial interests of their own, and are not mere suburban residential towns, Springfield is the general business center and its traffic is fed from the adjoining communities. Possibly a mathematical formula might be derived for fixing the limits so as to secure the results desired, but the Commission has been unable to hit upon such a formula and must depend upon general judgment. In our opinion, the limits proposed by the company are not far out of the way. They vary on the through lines from 2.3 miles from

Court square to 3.6 miles, and average about 3.2 miles. Greater uniformity would be desirable, but the variations are not so great as the variations in the length of riding now possible on the different lines for the uniform 5-cent fare and, upon analysis, it appears that they have not been established arbitrarily but in the exercise of reasonable discrimination.

The limit nearest to Court square, for example, is on the Brightwood line to Chicopee and is fixed at a distance of about 2.3 miles. This point was chosen, however, because it is on the boundary line between the two cities. If it was placed farther out, Chicopee would not have the advantage of a 5-cent fare within its own limits; and it also appears that the territory for some considerable distance beyond the boundary is sparsely settled, so that there would be small advantage in any event. Similar conditions governed the fixing of the limits on the Glenwood and Liberty street lines to Chicopee and Chicopee Falls. The limit at the greatest distance is on the St. James avenue line, being placed about 3.6 miles from Court square. In this case it was extended to the large Westinghouse plant, since it was thought desirable that the workmen should be able to reach this plant from either direction for a single fare, a conclusion in which we concur. On the whole, the Commission is not disposed, for the present, to disturb the limits as fixed by the company. Actual experience may develop valid reasons for making some adjustments in certain instances, and the matter will be regarded as open for future consideration, without prejudice, after such experience has been secured.

In the case of the outer zone there are two different methods by which a gradation of fares can be established between the minimum and the maximum. Provision can be made for successive concentric sections, in each of which a small additional cash fare of one or two cents would be charged, or the cash fare can be allowed to remain on the basis proposed by the company and provision can be made for intermediate steps through the sale of tickets. The latter arrangement is substantially the plan adopted by the Commission in the Holyoke Rate Case, decided December 31, 1917. In Holyoke, a passenger traveling between a point in the inner zone and a point in the outer zone is charged 10 cents if he pays cash, but he can obtain a rate of $6\frac{1}{2}$ cents by purchasing 6 tickets for 40 cents. This plan has the advantage that it simplifies fare collections by eliminating the handling of pennies, and any person who rides with any frequency can

easily obtain advantage of the reduced rate. Those who ride very infrequently may prefer to pay the full cash fare rather than to invest in tickets, but it is not unfair that riders of this class should be charged a higher rate, and by so doing the ticket rate can be kept on a lower basis than would otherwise be possible.

Plan Recommended.

In the judgment of the Commission the "zone system" should be introduced upon the following initial basis, subject to possible later change in the light of the knowledge gained from actual experience: —

(1) Establish an inner zone, with the limits proposed in the schedule filed by the company.

(2) Provide for a uniform cash fare of 5 cents in the inner zone, with free transfer privileges, and for a similar cash fare of 5 cents in the outer zone.

(3) Provide for the sale of 6 tickets for 40 cents, or at the rate of $6\frac{2}{3}$ cents each, good between any point in the inner zone and any point in the outer zone which is not more than 5 miles distant by rail from Court square. This will take in most of Chicopee and Chicopee Falls, East Longmeadow, much of Longmeadow and Agawam, and the major portion of West Springfield which is not within the inner zone. The limit for these tickets on each line need not be fixed at precisely the 5-mile mark, but may be placed, with the approval of the Commission, at any natural point of division which approximates that distance. Adjustment should be made on the lines to Chicopee Falls, which reach the same destination by routes of varying length, so that the fares to the common point shall in all cases be on the $6\frac{2}{3}$ -cent basis.

(4) Provide for the sale of 6 tickets for 50 cents, or at the rate of $8\frac{1}{3}$ cents each, good between any point in the inner zone and any point in the outer zone which is beyond the approximate 5-mile limit in which the $6\frac{2}{3}$ -cent tickets can be used.

The plan so outlined is, we realize, not mathematically precise nor free from inconsistencies. It may be said to favor riders passing to and from the remote ends of the long lines to Feeding Hills, to the Connecticut state line on the west side of the river, and to Indian Orchard and Ludlow. A plan in theory more logical and consistent would be to limit the use of the $8\frac{1}{3}$ -cent tickets to points not more than about $6\frac{1}{2}$ miles from Court square. The traffic which would be affected, however, is inconsiderable, except on the line to Indian Orchard and Ludlow, and it does not seem to the Commission desirable, either from the

public point of view or in the financial interest of the company, that the fares paid in traveling between points in the central district and these communities should be raised 100 per cent. In changing from the established system of charging to a radically different plan, some adjustments are necessary, even if they involve inconsistencies, to avoid too harsh a break between the old and the new.

Viewing the situation as a whole, the plan recommended will, in our judgment, produce the best results for the community and is just and reasonable. Whatever inconsistencies it may involve are not of major importance and are far less pronounced than those which have existed for years under the present system. Doubtless experience will show that improvements are possible and desirable, but these may be made later as the need develops.

What amount of additional revenue this change in fares will yield no one can forecast with accuracy. It is dependent upon the effect on traffic, the extent to which tickets are used in lieu of cash, and the extent to which each of the two classes of tickets are used. No traffic counts are available which make possible an estimate such as was submitted by the company in the case of its own proposed method of readjusted fares. Reasoning by analogy from the company's estimate, however, it seems probable to the Commission that the zone system recommended will yield upwards of \$300,000 additional revenue and that, adding the amount obtained from the outlying divisions, the total will approximate the \$400,000 reasonably required. If this should not prove to be the case after a fair trial, the matter can, of course, be brought up for renewed consideration. The history of the company and the effect of the share for share consolidations with outlying lines make it just and reasonable that any increase in fares in the central district should be conservative.

An order is entered below cancelling the rates and charges stated in the schedule filed with the Commission and now under suspension. The company will be permitted, however, to file a new schedule embodying the modified changes in fares above outlined, and an order will be issued permitting this schedule to become effective on short notice. Before issuing such an order, however, the Commission must be satisfied that the schedule conforms to its recommendations and reserves the right to require any minor changes, consistent with the essential features of the plan, which may seem desirable in the application of the plan to the territory affected.

ORDER.

Notice of the Springfield Street Railway Company of proposed increase in rates of fare upon its railway.

It appearing that on August 10, 1917, an order was entered suspending, until November 1, 1917, the rates and charges stated in the schedule described in said order; and that by subsequent orders said rates and charges were further suspended until April 1, 1918; and it further appearing that a full investigation of the matters and things involved has been had, and that the Commission on the date hereof has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, —

It is

Ordered, That the Springfield Street Railway Company be and is hereby notified and required to cancel the rates and charges and changes of fare limits and transfer privileges stated in the schedule specified in said orders of suspension.

It is

Further ordered, That a copy of this order be filed with said schedule at the office of the Commission and a copy hereof be forthwith served upon the Springfield Street Railway Company.

By the Commission,

ANDREW A. HIGHLANDS,

MARCH 30, 1918.

[P. S. C. 1860]

Secretary.

HOTEL TELEPHONE RATES.

In the matter of an investigation by the Commission upon its own motion concerning telephone service at hotels and the rates charged therefor.

GEORGE R. GRANT } for the New England Telephone
CLARENCE G. McDAVITT } and Telegraph Company.
JOHN A. SULLIVAN for the Boston Hotel Men's Association.

This investigation was instituted by the Commission upon its own motion as the result of information and complaints to the effect that at certain hotels in Boston the rates or tolls for local messages had been increased from 5 cents to 10 cents each. A public hearing was held on December 20, 1917.

It appears that prior to the date, July 1, 1915, when the New England Telephone and Telegraph Company filed its rate schedule with this Commission, under the provisions of chapter 784 of the Acts of 1913, telephone service was furnished to hotels under special so-called "hotel contracts." No provision for such contracts was made in the schedule which was filed, no new contracts of similar character have since been entered into, most of those which then existed have been discontinued, and it is the intention of the company to discontinue them all. Their temporary retention has been permissible under a provision of section 20 of the aforesaid act.

The telephone service of the hotels may be separated into two parts, viz.:—

- (1) The service furnished to the offices and rooms, which may be called the "room service."
- (2) The service furnished to booths located in the lobbies or corridors, which may be called the "corridor service."

Under the rate schedule filed with the Commission, the "room service" is furnished under the standard form of contract for private branch exchange service. The hotel pays a stated sum per year for switchboard and equipment, for each trunk line and for each telephone instrument used, and an additional amount

based upon the number of messages. The actual rates for number one system, Metropolitan exchange service, are as follows: —

<i>Equipment.</i>	<i>Annual Rates.</i>
Switchboard,	\$24 00
Trunk lines (both ways), each,	24 00
Stations, each,	6 00
Operators' or answering sets, each,	6 00

<i>Messages.</i>	
Minimum, 4,000,	120 00
Additional messages, in excess of minimum, used within the contract year, 3 cents each.	

The telephone company furnishes all the apparatus and wiring, while the hotel supplies whatever operators may be necessary.

Until recently the "corridor service" has been furnished directly by the telephone company upon the public pay station basis. Space has been leased from the hotel and the station has either been operated upon the coin box plan or through an operator supplied by the telephone company. Under this arrangement no direct connection has existed between the "room service" and the "corridor service," intercommunication being provided only through the telephone central office. To some extent this is the plan which is still pursued, but a change has been made in a number of cases during the past 12 months, which seems likely to become general if no obstacle is interposed by public authorities.

The "corridor service" is taken over by the hotel under this new arrangement and combined with the "room service." Both are operated from the same switchboard as parts of one private branch exchange system. The telephone instrument in a corridor booth has the same status as an instrument in one of the rooms and is operated in the same way. It follows that the "corridor service," upon the theory of the telephone company, ceases to be public pay station service and that the hotel is free to charge what it pleases to those who may care to use it.

The immediate result of the change in every case has been that the charge for local messages, which is 5 cents at public pay stations, has been increased to 10 cents, and coincidentally the hotels have made a similar increase in the charge from their rooms. The proprietors submitted evidence to show that under the former arrangement they were losing money, and this was the sole reason offered for raising the charge from the rooms. In the case

of the "corridor service," however, they claimed that the object of the increase was to confine the telephone service to guests, so as to give them better service than they had received under the old system. It was alleged "that the only practical way to accomplish this object was to exclude the general public by raising the rates; that the increase had excluded many persons, not guests, who had used the hotel telephone under the lower rates; that practically no complaints had arisen from guests on account of the increased rates; that the service from the guests' standpoint had been greatly improved; that no signs were displayed to indicate that the hotels were furnishing a public service, or that the public was invited to use it, or that the rate was only 5 cents; that in some of the hotels a sign is displayed showing that the charge is 10 cents; and that in the immediate vicinity of the hotels in question there were public pay stations in sufficient number to meet public demands at the 5-cent rate."

It was also alleged that guests can now call up their rooms from the corridor booths without charge, an advantage which they did not formerly possess. Under the new plan the hotels own the booths, which are often specially constructed to harmonize with the surroundings, and the further claim was made that the extra charge is in part levied as compensation for the additional service, not available at public pay stations, which they render in the way of clerical assistance, in following up calls to obtain desired connections, and in paging guests, and for the other incidental expenses not involved in the furnishing of regular public telephone service under standard conditions. It was admitted, however, that service from the booths in the corridors is not confined to persons who are guests of the hotel, but is open indiscriminately to all persons who are willing to pay 10 cents for local messages.

At the hearing the representative of the telephone company stated that it is now and always has been willing to establish and maintain public pay stations at hotels, in conformity to the former practice, charging the usual public pay station rates for all messages, but that this cannot be done without the consent of the hotels and that there are numerous public telephone stations within 500 feet of every hotel where the new plan is followed, at which service can be secured at the regular rates. In the brief subsequently filed, the company makes no claim whatever relative to the right of the Commission to regulate the rates or tolls which hotels shall levy, and takes no position either for or against the

10-cent charge. It maintains, however, that if the Commission construes chapter 784 of the Acts of 1913 (Public Service Commission Act), or any sections thereof as giving it jurisdiction over the hotels in this respect, it must first find that they are common carriers under the statute. It urges that it is rendering service to the hotels, under the new plan, in strict conformity with its schedule of rates filed and published according to law, under the standard form of contract available for all private branch exchange subscribers regardless of the nature of their business. At the hearing counsel also contended (Record, p. 24) that, so far as the telephone company is concerned, "a private individual or a business concern or a manufacturing concern or a hotel, all of which are receiving service under this same form of contract, can retail or resell telephone service to the public or to special and selected persons, and make such charges as they see fit."

This contention really sums up the problem before the Commission. Such jurisdiction and authority as it has over telephone service arises, primarily, from the following provisions of section 2 of chapter 784 of the Acts of 1913: —

SECTION 2. The commission shall, so far as may be necessary for the purpose of carrying out the provisions of this or any other act, have general supervision and regulation of, and jurisdiction and control over, the following services, when furnished or rendered for public use within the commonwealth, and all persons, firms, corporations, associations and joint stock associations or companies, hereinafter in this act collectively called common carriers and severally called a common carrier, furnishing or rendering any such service or services: —

(c) The transmission of intelligence within the commonwealth by electricity, by means of telephone lines or telegraph lines or any other method or system of communication, including the operation of all conveniences, appliances, instrumentalities, or equipment utilized in connection therewith or appertaining thereto.

The jurisdiction over the telephone company in this case is clear. The operating company was chartered in New York, but operates in this Commonwealth as the agent of the New England Telephone and Telegraph Company of Massachusetts, which was organized in 1888 for the following purpose: —

The purpose for which the corporation is constituted is the acquiring by purchase, lease or otherwise, constructing, maintaining, leasing and

operating telephone exchange systems and public and private telephone and telegraph lines and in general the receiving and transmitting intelligence by electricity for all purposes and the doing a telephone, telegraph and district telegraph business both within and without the State of Massachusetts and the acquiring, holding, using, selling and leasing all rights, franchises, patents, machinery and apparatus pertaining to such business.

No one would contend that the hotels have ever received any similar authority, or that they have any lawful right to engage in the public business of transmitting intelligence within the Commonwealth by electricity. It is clear also that they are not rendering such service. Obviously, the telephone service which is furnished from a booth in the corridor or from a room in the hotel must depend, not upon the facilities of the hotel itself, but upon the facilities and property owned and operated by the telephone company entirely outside of the hotel and entirely beyond the control of the hotel management. Even the switchboard, wiring and telephone instruments within the hotel itself are owned by the telephone company and not by the hotel, and all that the latter owns in the way of equipment are the booths in the corridor, which are the equivalent of small rooms and have no necessary connection with the telephone service. It is true that the hotel supplies the operators for the private branch exchange switchboard, but these are merely its agents in the receipt of the service and in essence play no more part in the actual furnishing of the service than does any person who receives or sends a message.

While the hotels are not *furnishing* telephone service, however, it appears that they are *dealing in* such service. In effect, they buy at wholesale and sell at retail. Whatever compensation the telephone company receives for messages sent from the hotel is paid by the hotel, but, if the message is sent by a guest or by any other person who is not in its employ, the latter charges and receives compensation on its own account. The question arises whether such reselling or retailing of service is lawful, and whether the hotels are authorized to engage in the telephone business even to this extent.

The question has an importance beyond the immediate issue presented in these proceedings. If a hotel may lawfully buy service in bulk and resell it in this way, presumably the same course may be followed by other proprietors. Thus, the owners of an office building might take service for the entire building upon a private branch exchange basis and retail it to their

tenants at such prices as they saw fit; the owners of a department store might adopt a similar plan in providing telephone facilities for their customers; or a railroad company might resell in this way within the confines of a passenger station, like the North station or South station in Boston. Indeed the owners of all the buildings located within the limits of any city block might establish a joint private branch exchange and require all tenants to take their service from that source.

At the time of the hearing upon this matter, one of the terms and conditions applicable to all contracts for telephone service was as follows: —

Use of Instruments and Apparatus. — The instruments and apparatus furnished to the subscriber shall be carefully used in accordance with the rules of the company; shall not be removed from the subscriber's premises nor connected with any instrument or apparatus not furnished by the company; *shall be used by the subscriber, his agents or employees only when engaged in his business and shall not be used in any way in competition with the business conducted by the company.* (Italics ours.)

This provision would undoubtedly prevent the present use of private branch exchange service by hotels, and stand in the way of an extension of such practice along the lines above indicated. Since the hearing, however, the company has attempted to change this regulation, so that the restriction which limits the use of the instruments to the subscriber, his agents or employees, shall apply only to unlimited service, and not to measured service such as is received in connection with private branch exchanges. In the opinion of the Commission this change has not been lawfully made, since the statute (St. 1913, c. 784, § 20) provides that no change shall be made in any rate "or in any rule, regulation or form of contract or agreement, in any manner affecting the same" except upon thirty days' notice to the Commission, and no such notice has ever been given. For present purposes, however, we think it desirable not to rest the case upon a regulation of the company which, if it has not already been changed, is at least subject to change, but instead to deal broadly with the matter upon the basis of general underlying principles.

It is immaterial, also, whether the hotels are or are not making a profit from the telephone service. If the company is right in its view that any subscriber to private branch exchange service may resell and make such charges as he sees fit, it is clearly within the power of the hotels to reap a profit if they care to do so. And indeed the evidence submitted to show that they lost money

under the old arrangement and are still losing under the new, was not at all convincing. In their computations no allowance was made for the benefit received from free telephone intercommunication between all the rooms and offices, or from the incoming service. If the telephone instruments could not be used at all for outgoing calls and were available only for the delivery of messages, without doubt most hotels would still be willing to pay for the privilege of having them installed. Their present contention seems to be that, unless the tolls from outgoing service are sufficient to cover all payments to the telephone company and other expenses, there is a loss on the service; whereas it is quite clear that, if the collections were sufficient to cover these costs, the hotels would profit by receiving the incoming and interior service entirely without charge. As above stated, however, the question of gain or loss is immaterial, in our judgment, and need not be pursued.

Within by far the greater part of the territory which it serves, the New England Telephone and Telegraph Company is the only concern which has been authorized by law to carry on a telephone business. It has full authority to supply the needs, in this respect, of all individuals or corporations; and within the limits of the commonwealth this Commission has equally comprehensive jurisdiction over the rates which it charges. The public policy, in other words, has favored a unified service, with undivided and centralized responsibility. If subscribers, however, may purchase service in bulk and resell it to others, either they must be regarded as additional common carriers, subject to the supervision of the Commission and to the duty of publishing and filing the rates which they charge and dividing responsibility with the telephone company, or else there is a broad field of telephone service over which the Commission has no jurisdiction or regulative powers whatsoever. In our judgment, no such authority to deal in telephone service has ever been granted by the commonwealth, and those who engage in this practice do so without lawful right.

In reaching this conclusion, we do not have in mind cases where subscribers allow an occasional person to use the service and exact some charge for the accommodation, but instances where the resale has attained the dignity of a commercial practice affected with a public interest. Just where the line should be drawn we do not now undertake to say. For the present it is sufficient to determine whether the case of the hotels, which is now under consideration, falls within or without that line.

As already stated, hotel telephone service may conveniently be divided for purposes of discussion into two parts, the "room service" and the "corridor service." In the case of the "room service," it is clear that the charges levied upon the guests constitute a recognized commercial practice, and we think it clear also that this practice is affected with a public interest. Counsel for the hotels argued, in substance, that they are not required by law to provide a public telephone service, or indeed any telephone service at all; that they have a legal right to restrict service to their guests; that they do so restrict it; that there is a distinction which must be recognized between the general public and members of the general public, like these guests, who have seen fit to place themselves in a new classification; and that the service is in no sense furnished to the general public but private service confined to a particular class. This contention makes it necessary to consider the general status of innkeepers and hotels.

Hotels are in a very definite sense public focusing or assembling places. Their guests come not only from all parts of this country but from all over the civilized world. They are established and maintained to serve that clearly defined portion of the public for whom the law has always been solicitous, viz.: travelers and strangers. It is the same section of the public which is served by common carriers of passengers, and the liability of a proprietor of a hotel, in common law, is like that of a common carrier. (See *Mason v. Thompson*, 9 Pick. 280.) The opening of a hotel is an invitation to this public to become its guests, and the hotel proprietor becomes a kind of public person on whom the law imposes certain extraordinary obligations. This has been true for centuries. "The person who erects the sign charges himself to the Commonwealth." (See *Rex v. Collins*, Palmer 372 (1623).) Tradesmen may sell to whom they please and, speaking generally, charge for their wares what they please. It is not so with hotel proprietors. They "may not pick and choose" their guests, but are bound to receive up to the capacity of their facilities all transients of good character who apply peaceably, who are free from any contagious or infectious disease, and who have the ability to pay for their entertainment and service. They cannot set their own prices, but are bound to reasonable prices. In other words, they must serve for a reasonable compensation all the public that come within the class which the hotels are established to serve. And in the same sense that a booth at a public telephone station is public, or a seat in a parlor car, or a berth in a sleeping car, so is every room in a hotel that is let to guests.

While it may be true that there is no legal obligation on the hotel proprietor to have telephone service in his house, it is also true that telephone connection is not only a usual but an indispensable adjunct to the running of a successful hotel, at least in all urban centers. In other words, a general profession or understanding that a hotel has telephone connection for the use of its guests is a prime necessity under modern conditions. This, however, is of secondary consequence. The essential fact is that, when telephone service is provided by a hotel, it is offered for the use of a well recognized section of the general public, constantly shifting in its make-up and to which any member of the general public may at any time belong. "It is ordinarily said that those who undertake a public service owe a duty to the public in general, whatever may be their inclinations. But it will be found upon inquiry that in the case of every public calling, service is legally due to persons belonging to a special class and not to every member of the public, as such." (See *Wyman on Public Service Corporations*, section 360.) Thus, the duty of carriers of passengers and innkeepers is to travelers; the duty of gas and electric companies and similar utilities, to the occupiers of premises; the duty of sleeping and parlor car companies, to passengers on trains, etc.

There can be no doubt, we feel, that the commercial practice of the hotels in selling telephone service to guests in rooms is affected with a public interest. If this be true of the "room service," *a fortiori* it is true of the "corridor service," for the latter is not even confined to the use of guests, but is open indiscriminately to all persons who may be within the building and willing to pay the 10-cent charge.

It is quite possible that the motives of the hotels in this matter are not open to serious criticism, and it may also be a fact, although this is more doubtful, that their guests find no fault with the present arrangement. But all this has little bearing upon the real underlying issue, which is that the telephone company is dividing responsibility for a portion of its service, placing private parties in a position where they can deal with a section of the general public and make such charges for the service as they see fit. The following statement, made by counsel for the hotels at the public hearing, is significant in this connection (Record, p. 121): —

Commissioner RUSSELL. Would you say, Mr. Sullivan, that there is any limit to what the hotels may charge except their own conscience or opinion of what was advisable?

Mr. SULLIVAN. I say no. In my view of the law, assuming this is a private service, there is no limit.

Commissioner RUSSELL. If you are right, they may charge any figure they can collect.

Mr. SULLIVAN. There is no doubt about it, but I am equally sure that a hotel would have common sense enough, and a desire to please the guests so that it would not charge an extortionate rate.

The service does not differ, of course, from the service furnished elsewhere. Standard instruments are used, and no special attention or facilities are afforded by the telephone company beyond what are generally provided. At some of the hotels the surroundings are attractive and various courtesies are extended, but these have no direct connection with the actual telephone service and compensation for such accommodations is received in other ways. As matters now stand, 10 cents is charged at hotels for precisely the same service which is furnished at public pay stations for 5 cents; and there is nothing to prevent the 10-cent rate from being increased without limit.

Viewed in the most favorable light, the practice has undesirable and dangerous possibilities, and, in our opinion, it is also contrary to law. It may be argued that, if the transactions of the hotels in telephone service are affected with a public interest, the remedy is to regulate the charges which they make. This is, in fact, substantially the position taken by the company in its brief.

If upon any investigation which this Honorable Commission sees fit to institute it is found that any hotel, or in fact any corporation, individual or association, is furnishing or rendering telephone service for public use within the commonwealth, such corporation, association or individual has constituted itself a carrier within the purview of the section herein-after quoted, and has become subject to the jurisdiction and regulation of this Commission.

The fear, therefore, concerning the subletting of its business by the telephone company is unfounded. That the telephone company would so sublet its business is a possibility so remote as to be unworthy of serious consideration. However, if it should do so the persons, firms or corporations to whom such business might be sublet will be subject to the same regulating authority which to-day regulates the rates and services of all carriers under the act.

But this is an inadequate view of the matter, for the hotels, as their counsel has pointed out, "were not incorporated for the purpose of rendering a public telephone service" and have no lawful authority either to furnish or to join in furnishing or to

deal in such service. Within the territory in question there is but one agency which has been authorized by the commonwealth to supply and deal in telephone service, and that agency is the New England Telephone and Telegraph Company. It is given undivided responsibility and cannot, in our judgment, shirk or avoid that responsibility by selling its service in wholesale quantities and permitting others to retail it to the public.

It remains to determine the action which should be taken by the company to bring itself into right relations, in this respect, with the public which it has been created to serve. The first step, we believe, should be a proper restriction of "private branch exchange" service, as furnished to hotel companies or other licensed innkeepers. This can be done by adopting and enforcing the condition that any service so furnished shall not be resold by the subscriber to the public or any section thereof, either directly or indirectly through a charge for the use of the instruments and apparatus. In other words, this form of service should be what its name implies, "private" rather than "public."

The manner in which the guests' service, in our judgment, should be supplied may be illustrated by a precedent which has already been established. Provision is made in the company's contract practices for the establishment of "branch exchange public telephone stations" in hotels, clubs or other similar locations where public telephone stations are necessary. These stations furnish service on the same general basis as the ordinary public pay stations, except that calls are handled through a local switchboard, and the patron, instead of depositing the amount of the charge in a coin box, pays it to the proprietor, who acts as agent for and accounts to the company. In both cases a flat rate of 5 cents is charged for all local calls, and the proprietor receives the same percentage of the receipts as a commission on the business transacted. Where the total receipts exceed \$100 a year this commission in the metropolitan district is equivalent to 1 cent on each 5-cent call, with a similar percentage on long distance business. Under existing contracts for public branch exchange service the company furnishes, without charge, a switchboard and its equipment and all necessary trunk lines, but makes a monthly charge of 25 cents (minimum \$1.75 per year) for each telephone instrument (minimum 30 stations) to cover its use by the agent for intercommunicating purposes, and may also require the agent to assume "proper installation and maintenance charges." The agent also furnishes the necessary operators at his own expense, presumably upon the theory that the commissions upon the rela-

tively large volume of business handled will be ample to provide for this expense.

This arrangement, we understand, has been established principally for the accommodation of summer hotels to provide their guests with long distance telephone facilities, and it is quite possible that it may not be adapted in precisely its present form to the service now under consideration. We believe, however, that an equitable arrangement of similar nature can be devised which will cover the necessities of the situation, enabling patrons to secure service at the regularly established rates and dealing fairly with both the hotels and the company. If the hotel company, for the more convenient and economical handling of its own private business, should desire to become a subscriber to the regular exchange service at the established rates, that service and the room service under the public branch exchange arrangement could probably be furnished over separate trunk lines to the same switchboard, and handled by the same operators. The corridor service might be operated directly by the telephone company, as in the past, under a contract providing for the payment of a fixed annual rental for the space occupied, or, at the option of the hotels, might be combined with the room service under the new arrangement. If the latter plan were adopted, the hotels could confine the service, even in the corridors, if they saw fit, to the use of the guests. Just as the hotels themselves are obliged by law only to serve travelers, this form of public telephone service in the hotels could reasonably be confined to the well recognized section of the public which the guests constitute. In order that there may be reasonable opportunity for all interested parties to consider and be heard upon the terms of the new arrangement before they are definitely fixed, the order of the Commission requiring the discontinuance of the present practice, which is entered below, is made effective on December 1, 1918, and the company is directed on or before November 1, 1918, to submit to the Commission for its approval a tentative plan and schedule for the furnishing of hotel telephone service upon the suggested new basis.

ORDER.

In the matter of investigation by the Commission, upon its own motion, concerning telephone service at hotels and the rates charged therefor.

In the above entitled case, it appearing that full investigation of the matters and things involved has been had and that the

Commission, on the date hereof, has made and filed a report containing its findings of fact and conclusions thereon, which said report is hereby referred to and made a part hereof, —

It is

Ordered, That on and after the first day of December, 1918, all telephone companies doing business within the Commonwealth be and they are hereby required to cease to render to licensed innkeepers, private branch exchange telephone service, except upon the condition that the service so furnished shall not be resold by the subscriber to the public or any section thereof, either directly or indirectly through a charge for the use of the instruments and apparatus.

It is

Further ordered, That on or before the first day of November, 1918, said telephone companies be and they are hereby required to file with the Commission schedules, effective on the first day of December, 1918, subject to its approval after public hearing, under which licensed innkeepers, may, as agents for the telephone company, provide telephone service in their rooms, or in their rooms and corridors, at the regular rates charged from public pay stations.

It is

Further ordered, That a copy of this order be filed at the office of the Commission and that copies be forthwith served upon all telephone companies operating within the commonwealth.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 30, 1917.

[P. S. C. 1997]

Secretary.

ACCOMMODATIONS, FARES, RATES, SERVICE.

RAILROAD RATES.

Order of the Commission permitting stated changes in tariffs effective upon less than statutory notice.

After consideration, —

It is

Ordered, That until further ordered, carriers be authorized to file tariffs, or supplements to tariffs, effective upon one day's notice to the Commission and to the general public, which provide for additional through rates for the through carriage of freight or passengers and the rates or fares applicable thereto, and which provide for additional routes, receiving or delivery points at stations and ports necessary to the operation of railroads as a national system of transportation, and the terms, rates, conditions and absorptions incident thereto.

And it is

Further ordered, That each tariff or supplement filed under authority hereof shall bear on its title-page the notation "Issued on one (1) day's notice, under M. P. S. C. No. 2043, of January 15, 1918."

Attest: ANDREW A. HIGHLANDS,
JANUARY 15, 1918. [P. S. C. 2043] Secretary.

Order of House of Representatives for an investigation by the Commission of the rates of fare charged by the New York, New Haven and Hartford Railroad Company, especially the fares between Boston and points on Cape Cod, Martha's Vineyard and Nantucket; also petition of Herbert M. Chase protesting against said passenger fares.

Memorandum.

At the public hearing on this order and the petition heard therewith no objection was offered to the regular one-way rates or to the mileage or season ticket rates applicable to the entire New Haven system, but complaint was directed to the discontinuance, in accordance with certain tariffs approved by the

Commission in the railroad passenger rate case (3 P. S. C. Rep., p. 3), of certain reduced-rate excursion tickets which had theretofore been in effect between Boston and points on Cape Cod, Martha's Vineyard and Nantucket during the summer months.

The complainants contended in substance that the establishment of excursion rates of this character was consistent with the practice of other railroad companies, that such rates were profitable to the company by stimulating additional passenger business, and were also demanded by considerations of public policy, in view of the commercial importance of the summer resort business of the commonwealth. For these reasons they requested the Commission to order the company to restore the old rates, or at least to establish some form of excursion ticket between the same points at a substantial reduction from the regular one-way fares.

The company claimed that these rates proved unremunerative and that it could not defend the making of low rates to these points when it was not making them to the rest of its territory. No other rates of this character were in effect in Massachusetts or anywhere on the New Haven system, except between New York and certain points in the Berkshire district where excursion tickets were furnished in order to meet the competition of the New York Central railroad at a reduction of 10 per cent from twice the one-way fare.

During the progress of the hearing the Commission expressed doubt as to its authority to order the restoration of these special excursion rates after their withdrawal by the company, especially as such rates would appear to be discriminatory against other points where no such rates were in effect. The Commission, however, suggested to the company that it might well consider the advisability of voluntarily establishing a special round-trip rate during the summer months to points in Martha's Vineyard and Nantucket upon the same basis as the round-trip rates from New York to the Berkshire district. As the company signified its willingness to adopt this suggestion, the Commission, soon after the conclusion of the hearing, decided that it could not properly take any further action upon the pending order and petition. As this decision was not formally issued at that time, this memorandum is now entered to close the record.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 24, 1918.

[P. S. C. 951]

Secretary.

REPARATION.

Petition of the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad to authorize payment of a claim for reparation.

This is a petition of the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad for authority to repay to Charles M. Field of Springfield the sum of \$144.09 as special reparation under the provisions of chapter 92 of the General Acts of 1916, on account of excessive charges collected on fourteen cars of brick forwarded from Northampton to West Springfield yard between December 30, 1916, and April 17, 1917.

The Commission is satisfied from its investigation through the Rate and Tariff Department that the charges collected upon the shipments in question were in fact unduly discriminatory and that the petitioners should be allowed to repay the overcharge on the basis applicable thereto both before and after the dates above named.

It is

Ordered, That the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad be authorized to repay, under the provisions of chapter 92 of the General Acts of 1916, to Charles M. Field of Springfield the sum of \$144.09 as reparation on account of unjustly discriminatory charges collected upon the aforesaid shipments.

Attest: ANDREW A. HIGHLANDS,
OCTOBER 31, 1918. [P. S. C. 2021-D] Secretary.

Petition of the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad to authorize payment of a claim for reparation.

This is a petition of the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad for authority to repay to E. J. Cross Company of Worcester the sum of \$581.27 as special reparation under the provisions of chapter 92 of the General Acts of 1916, on fifty-five cars of brick transported from Northampton to Springfield on the Boston and Maine railroad and thence to Worcester on the Boston and Albany railroad during the period March 29,

1917, to July 30, 1917. The rate used in the movement of the shipments in question was \$1.40 per net ton in carload lots, with minimum weight of 50,000 pounds, established in Boston and Maine Railroad tariff supplement No. 7 to M. P. S. C. No. 1150, effective March 23, 1917.

In view of the rate in force at the same time on brick from Mechanicsville, New York, to Worcester, a distance of 168 miles, of \$1.10 per net ton, the claimant considered the collected rate of \$1.40 from Northampton to Worcester, a distance of 72 miles, unjustly discriminatory.

As a rate of \$1.10 per net ton has now been published to cover the transportation of brick from Northampton to Worcester by supplement No. 11 of Boston and Maine railroad tariff M. P. S. C. No. 1150, effective October 24, 1917, and as the Commission is satisfied from its investigation through its Rate and Tariff Department that the rate used in the case under consideration was in fact unjustly discriminatory, — it is

Ordered, That the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad be authorized to repay, under the provisions of chapter 92 of the General Acts of 1916, to E. J. Cross Company of Worcester the sum of \$581.27 as reparation on account of the unjustly discriminatory rate applied upon the aforesaid shipments.

Attest: ANDREW A. HIGHLANDS,
MAY 17, 1918. [P. S. C. 2021-A] *Secretary.*

Petition of the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad to authorize payment of a claim for reparation.

This is a petition of the Boston and Albany railroad (New York Central Railroad Company, lessee) and the Boston and Maine railroad for authority to repay to Daniel O'Connell's Sons of Holyoke the sum of \$136.16 as special reparation under the provisions of chapter 92 of the General Acts of 1916, on sixteen cars of crushed stone transported from Westfield to Springfield on the Boston and Albany railroad and thence to Farley on the Boston and Maine railroad during the period August 20, 1917, to September 4, 1917. The rates used in the movement of the shipments in question were Boston and Albany rate of 45 cents per net ton as established by Boston and Albany tariff M. P. S. C. No. 834 and Boston and Maine rate of 60 cents per

net ton as established by Boston and Maine tariff M. P. S. C. No. 1070, making the combined charges \$1.05 per net ton.

It appears that at the time the shipments to Farley were made, a joint rate of 79 cents, from Westfield (via Springfield) to Deerfield, Greenfield and Millers Falls, points contiguous to Farley, was in effect, and provision for future movements of the same character to Farley has been made by the reissue of joint commodity tariff Boston and Albany M. P. S. C. No. 823, under new number M. P. S. C. 1053, effective September 6, 1917.

The Commission is satisfied from its investigation through its Rate and Tariff Department that the rates used and collected upon the shipments to Farley, namely, \$1.05 per net ton, as against a joint rate of 79 cents per net ton applicable to points contiguous to Farley, were in fact unduly discriminatory, and it is

Ordered, That the Boston and Albany Railroad (New York Central Railroad Company, lessee) and the Boston and Maine Railroad be authorized to repay, under the provisions of chapter 92 of the General Acts of 1916, to Daniel O'Connell's Sons of Holyoke the sum of \$136.16 as reparation on account of the unjustly discriminatory rate applied upon the aforesaid shipments.

Attest: ANDREW A. HIGHLANDS,
MAY 17, 1918. [P. S. C. 2021-B] *Secretary.*

Petition of the Boston and Maine Railroad to authorize payment of a claim for reparation.

This is a petition of the Boston and Maine Railroad for authority to repay to the Town of Hudson the sum of \$3.53 as special reparation under the provisions of chapter 92 of the General Acts of 1916 on one car of bituminous coal transported from Boston to Hudson on the Boston and Maine railroad on December 4, 1917. The coal in question was shipped by the New England Coal and Coke Company and billed under Boston and Maine freight tariff M. P. S. C. No. 1239, which provides for a rate of 90 cents per gross ton on a car with a minimum capacity of 40,000 pounds, or marked capacity of car if less than 40,000 pounds. The car used in the transportation of the coal had a carrying capacity of 40,000 pounds of certain kinds of freight but, on account of low sideboards, held only 31,200 pounds of bituminous coal, which was the actual amount shipped.

The Commission is satisfied from its investigation through its Rate and Tariff Department that the charges collected upon the

shipment in question were in fact unduly discriminatory, and that the petitioner should be allowed to repay the overcharge based on the difference in the capacity of the car used.

It is therefore

Ordered, That the Boston and Maine Railroad be authorized to repay, under the provisions of chapter 92 of the General Acts of 1916, to the town of Hudson, the sum of \$3.53 as reparation on account of unjustly discriminatory charges collected upon the aforesaid shipment.

Attest: ANDREW A. HIGHLANDS,
MAY 16, 1918. [P. S. C. 2021-C] *Secretary.*

BAGGAGE CHARGES.

Petition of the Boston, Revere Beach and Lynn Railroad Company for authority to charge for the carrying of baggage upon its trains.

Memorandum.

With the consent of counsel for the company, this case is filed without prejudice.

Attest: ANDREW A. HIGHLANDS,
OCTOBER 24, 1918. [P. S. C. 1777] *Secretary.*

RAILROAD SERVICE.

Complaint of William J. Anglim concerning movement of cars over the William J. Anglim side track in Cambridge, by the Boston and Albany Railroad.

The complainant requested the Commission to require the Boston and Albany Railroad Company to move freight in car-load lots to and from certain industrial plants located on a private side track, connecting with the Grand Junction branch of the Boston and Albany railroad, and constructed on land now or formerly owned by the complainant in the city of Cambridge.

It appears that the Board of Aldermen of the city of Cambridge on June 14, 1910, passed an order authorizing the complainant to construct and operate a spur track railroad upon and across certain streets, including an extension of Waverley street, which was laid out as a public way under an order of the City Council, approved by the acting mayor on June 10, 1910. This permit was subject to various conditions including a pro-

vision that "the work of construction shall commence within six months after the date of the granting of this location by the Board of Railroad Commissioners and shall be entirely finished within one year from the date of such commencement, and if not so begun or completed as above specified, then all powers herein granted may be revoked. The location so granted was approved by the County Commissioners on July 30, 1910, and by the Board of Railroad Commissioners on October 11, 1910. Subsequently, the Supreme Judicial Court, upon petition for a writ of certiorari, held that the proceedings with regard to the laying out of the extension of Waverley street were void, as the acting mayor had no power to approve the order. (*Dimick v. Barry*, 211 Mass. 165.) In view of this decision, a new order for the laying out of this street was passed by the Board of Aldermen and duly approved in 1912. The Board of Aldermen, under a resolve adopted January 9, 1912, and approved by the Mayor January 22, 1912, also ratified and confirmed the location of the spur track of the complainant as authorized by the Board of Aldermen on June 14, 1910, subject to the terms and conditions therein stated, except that the time for the completion of the work of construction was extended "for a period of six months from the date of the granting of this location by the Board of Railroad Commissioners."

The Boston and Albany Railroad Company undertook the construction of this spur track under an agreement with the complainant that he should assume the expense, but operations were suspended in 1913, owing to the inability of the company to collect the amount which it claimed to be due, under the terms of the contract, for the work already done. Upon the ground that the failure of the complainant to complete the work within the time specified constituted a breach of the conditions under which the permit was granted, the City Council on June 24, 1916, passed an order revoking and declaring void all right and authority theretofore granted to the complainant for the construction and operation of the track in question. Shortly afterwards, the Greater Boston Terminal Company, as assignee of the complainant, brought a bill in equity in the Superior Court, alleging that the order of revocation was void and asking that the city be restrained from interfering with the maintenance, construction and operation of the road. The presiding justice found that the petitioner was not entitled to the relief prayed for, but reserved the case for report to the Supreme

Judicial Court, where it is now pending, and a temporary injunction was issued, as prayed for.

The Boston and Albany Company states that the arrears due it for the work already done were paid in 1916, but that a further expenditure of about \$1,500 will be required to surface the street and bring it up to grade, and to plank the street crossings, before this side track is suitable for operation. The company has refused to complete the work until a satisfactory arrangement is made for the payment of the additional cost, and until the court has determined whether the complainant has any legal right to maintain and operate the road.

It seems to us that the only issue raised in the pending complaint is an issue of law which is now before the proper tribunal, and that the complainant may, if he desires, secure a speedy and authoritative adjudication of his rights in the proceedings now pending. Under these circumstances, if the Commission should attempt to forestall the decision of the court by ordering the Boston and Albany Company to make freight deliveries over the track in question, any such order would undoubtedly be made the subject of appeal to the court, so that the petitioner in any event must await a judicial determination of the issue now pending. As no useful purpose would be served by any action which might now be taken by the Commission, —

It is

Ordered, That the complaint be dismissed.

By the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 4, 1918.

[P. S. C. Com. 1233]

Secretary.

Petition of the Gilbert and Barker Manufacturing Company relative to the establishment and maintenance of switch connection with the Boston and Albany railroad (New York Central Railroad Company, lessee) in the town of West Springfield.

Memorandum.

An agreement having been reached between the parties in interest, the petition is placed upon file.

Attest:

ANDREW A. HIGHLANDS,

APRIL 8, 1918.

[P. S. C. 2094]

Secretary.

Petition of the Metropolitan Coal Company relative to the establishment of a switch connection on the Boston and Albany railroad in Boston.

This is a petition of the Metropolitan Coal Company, which conducts an extensive business in fuel with several distributing plants in Boston and its suburbs, that the Boston and Albany Railroad Company be required to provide a switch connection to a side track to be located upon the land of the coal company in Boston. The land is a narrow tract running from Chestnut Hill avenue back to the Chestnut Hill pumping station, and is bordered upon one side by land of the Boston Park Department and upon the other by the tracks of the Highland branch of the Boston and Albany railroad. At a public hearing evidence was presented that the coal company purchased the land about ten years ago with the purpose of using it as a distributing base in the handling of coal, and that in the early summer of 1917 it was deemed to be necessary for the conduct of the business that the site be utilized, at least temporarily, for this purpose. Evidence was presented that the railroad and the coal company entered into a definite arrangement for the installation of the side track connection, when upon application of residents of Brookline and Boston in the immediate district the railroad agreed to withhold its assent to making the connection, the coal company to petition the Commission under the provisions of section 25 of chapter 784 of the Acts of 1913, in order that opportunity might be had to hear all persons interested. Section 25 of chapter 784 of the Acts of 1913 reads, in part, as follows: —

. . . The commission may, upon reasonable terms and conditions, require and order any railroad or railway company which carries freight in carload lots to establish and maintain for the purpose of receiving or delivering freight in carload lots, a switch connection with any private side track constructed on land adjoining the location of any such railroad or railway, if the commission is of opinion that such connection is reasonable and practicable, can be put in and used with safety, and will furnish sufficient business to justify its construction and maintenance, and the commission may grant to any railway company the necessary locations in public ways and places for any switch connection ordered by the commission to be constructed by such railway company.

The Commission permitted the remonstrants to introduce evidence as to the possible injury to property values in the immediate neighborhood and the possibility of annoyance to residents from the noise and dust incidental to the operation of the coal company's

plant, reserving for further consideration the question as to whether such evidence was material to the issue which the Commission, under the provisions of the statute, is called upon to determine.

The statute provides that "if the commission is of opinion that such connection is reasonable and practicable, can be put in and used with safety, and will furnish sufficient business to justify its construction and maintenance," the Commission may order the installation of a side track connection. No contention was made in the hearing that the connection could not be put in and used with safety, nor was there any question raised that the side track would not furnish sufficient business to justify its construction and maintenance. The only other condition defined is whether the Commission is of the opinion that such a connection is reasonable and practicable. The words "reasonable and practicable" must be held to apply to the relation between the petitioner for a side track in any case and the respondent railroad or railway company. The test is, is it reasonable and practicable for the company to establish the connection? If in a given case the establishment of such a connection would constitute an interference with main line traffic, it might well be held to be unreasonable, or in another case it might be held to be impracticable because of differences in the grades of the main line tracks and adjoining land. In this case the company has made no contention that all of the above-mentioned conditions of the statute have not been complied with, nor was there any evidence offered by others that would justify the Commission in making such a finding. Indeed, counsel for the railroad stated that "the track is entirely feasible from a railroad standpoint," that "there is no question of safety in traffic" involved and that the company has "no valid reason for refusing to grant" the side track connection.

This Commission has the power to supervise the use of side track connections, in so far as public service and convenience are concerned, but has no authority to prescribe the use to which land upon which a side track is to be located shall be devoted. The power to regulate the use of land, the character of the buildings to be erected upon it and the uses to which they shall be devoted is vested by statute in certain other state departments and municipal authorities. No contention was made that the installation of the switch connection and side track would of itself constitute a nuisance. If the erection and use of coal pockets contemplated by the petitioner should constitute a nuisance that might be remedied by the exercise of the police power

of the Commonwealth, application can be made by the remonstrants to the courts or to the state or municipal authorities vested with power to act. The petitioner has declared its purpose to submit to representatives of the resident remonstrants the plans of any permanent coal pockets to be erected and has given assurance that the pockets shall be of the best type to insure a minimum of noise and dust in the handling of coal.

It was urged by certain remonstrants that the words: "The Commission may, upon reasonable terms and conditions require and order" were merely permissive and would warrant the Commission, in the exercise of its discretion, in dismissing the petition. While the word "may" leaves to the Commission a certain measure of discretion, it would be unreasonable and arbitrary, upon the evidence presented, to deny the facilities sought, where, as in this case, all of the statutory requirements are satisfied. As the company has indicated that it has no valid reason for refusing to grant the side track connection it may proceed to establish the connection upon the terms previously agreed upon or upon such other terms as may be acceptable to the parties. The statute provides that a railroad may be required to establish and maintain "a switch connection over any private side track *constructed* on land adjoining the location of any such railroad or railway." As the side track has not been constructed an order will not now be made in this case. If, for any reason not disclosed, the company should decline to execute an agreement for the establishment of the side track connection, the Commission will, upon the application of the petitioner, after the side track has been constructed, if there is no substantial change in transportation conditions, issue an order requiring such connection to be established. Pending further action, the petition will be placed on file.

Commissioner Stone dissenting.

I do not concur in the view of the majority of the Commission in defining the range of discretion given to the Commission by the language of the statute and in the exercise of discretion given I believe, upon the circumstances in this case, that the petition should be denied.

It is

Ordered, That the petition be placed upon file.

By the Commission,

ALLAN BROOKS,

Assistant Secretary.

FEBRUARY 6, 1918.

[P. S. C. 1787]

Petition of W. D. Thompson et al. relative to inadequate service on the Boston and Albany railroad on Saturdays from Worcester to points west.

Memorandum.

The petitioners in this case, many of whom live in the Brookfields and work in Worcester, asked to have a local train leave Worcester about one o'clock Saturdays in order that they might reach their homes soon after their work was completed.

At the hearing it appeared that for a great many years a local train which left Worcester at 11.50 A.M. for Springfield had been discontinued, so that there was no local train leaving Worcester for Springfield until 3.55 P.M., excepting a Western express which left Worcester at 2.15 P.M. and stopped only at East Brookfield, Warren and Palmer. On Saturdays it stopped at Brookfield, but this train was too late to accommodate those who finished their work at noon on Saturdays.

It further appeared that the company was operating a train on Saturdays only between Worcester and Springfield, known as "first No. 53." This train is made up at Worcester, and left there at 1.10 P.M., running express to Springfield, being operated chiefly to accommodate the large number of soldiers from Camp Devens who are on furlough over the holidays. It was suggested that this train be started from Worcester five minutes earlier, making certain local stops between Worcester and Springfield to accommodate the petitioners. This suggestion has been put into effect, so that this "first No. 53" now leaves Worcester at 1.05 P.M. and stops at all the Brookfields.

This arrangement is satisfactory to the petitioners and the petition is therefore dismissed.

Attest: ANDREW A. HIGHLANDS,
SEPTEMBER 7, 1918. [P. S. C. 2105] Secretary.

Petition of Roland D. Sawyer of Ware, and others, relative to train service on the Central Massachusetts branch of the Boston and Maine railroad.

The petitioners requested the restoration of certain service formerly furnished on the Central Massachusetts branch of the Boston and Maine railroad. Formerly train No. 503 left Ware at 7.18 A.M., reached Northampton at 8.15 A.M., and made one or two round trips from Northampton to Springfield before returning at 6.05 P.M., as train No. 566, to Ware. The service

furnished by these trains was discontinued last summer in connection with the general reduction of passenger train service then made by the Boston and Maine Railroad. Since that time the first morning train from Ware reaches Northampton about noon. This has resulted in considerable inconvenience, especially to lawyers and others residing in Ware, who are obliged to be in attendance at the opening of the court sessions in Northampton, and who formerly reached Northampton by train No. 503 in one hour but must now spend two hours or more in making the trip by trolley and rail via Springfield.

The company has also discontinued train No. 546, which left Northampton at 12.50 P.M. for Boston, and train No. 539 which left Boston at 4.11 P.M. for Northampton. Under the present schedule there is no train service from Northampton to Boston between 7.55 A.M. and 3.10 P.M., and this has discommoded passengers from all stations between Northampton and Berlin, who desire a midday service to Boston. On the return trip from Boston it was claimed that through passengers found it more convenient to use train No. 539, rather than the later train which leaves at 5.41 P.M. and reaches Northampton at 9.15 P.M. It was also claimed that the discontinuance of train No. 539 had overtaxed the capacity of the later train and interfered with the regularity of its schedule, and had made it impossible to deliver the evening mail in certain towns until the following morning.

The discontinuance of these trains has also proved inconvenient for certain pupils attending the high schools at Belchertown and Gilbertville. Pupils in South Belchertown attending the high school at Belchertown, formerly took train No. 503 from Bondsville and reached school at 7.37 A.M., returning on train No. 546 which left Belchertown at 1.25 P.M. Under the present schedule they cannot reach Belchertown until 11.33 A.M., nor return until 3.46 P.M. The high school at Gilbertville, in the town of Hardwick, is attended by pupils from New Braintree, Wheelwright, Barre Plains, Barre and Coldbrook, who formerly reached Gilbertville at 8.54 A.M. by the Ware River branch of the Boston and Albany railroad, and returned by way of the Boston and Maine railroad at 1.54 P.M. Under the present arrangement these pupils reach Gilbertville at 11.05 A.M. and return at 4.18 P.M., and many of them who have to travel a considerable distance after leaving the train do not reach their homes until late in the evening. It has been necessary to rearrange the time of the school sessions at both high schools so as to conform to the present train schedules. It is claimed that this arrangement is

less satisfactory from an educational standpoint and also interferes with the performance of necessary farm labor by the pupils after their return from school.

The petitioners suggested that if the former service could not be wholly restored, the company be required to operate a train from Ware to Northampton and from Northampton to Boston and return on the former schedule of trains 503, 546 and 539, and that the train leaving Boston at 5.41 P.M. be run as far as Ware only. The operation of this additional service would require one engine and train equipment, two engine crews and one train crew, but would save one engine and train equipment, one engine crew and one train crew as compared with the service formerly operated.

Counts taken by the company showed that train No. 503 carried an average of 16 passengers and earned thirteen cents per train mile, that train No. 546 carried an average of 120 passengers and earned eighty cents per train mile, and that train No. 539 carried an average of 105 passengers and earned fifty-five cents per train mile. Upon the basis of these figures, the service requested by the petitioners would show a revenue of about sixty-two cents per car mile, which would represent, according to the company's estimates, about one-half of the operating charges alone and about one-third of the total cost of operation.

It appears that this train service was originally discontinued about five years ago as a measure of economy. When business conditions had somewhat improved, about two and a half years later, it was restored, and had been in operation about a year and a half prior to its discontinuance, on June 25, 1917. The company claimed that its action last year was not based upon considerations of economy, but was due to the necessity of releasing equipment, motive power, labor and fuel, which are required for the prosecution of the war and the maintenance of essential industries.

The issues raised in this case are not free from difficulties. During normal times and under normal conditions the additional service requested by the petitioners, though not in itself profitable, might well be deemed necessary for the reasonable accommodation of the traveling public. It did not, however, seem to the Commission to be reasonable or expedient to require the installation of this additional service last winter, in view of the shortage of coal and other extraordinary conditions then prevailing. The matter has been held in abeyance in the hope that gen-

eral conditions would take a more favorable turn, which might warrant the Commission in granting some form of relief.

Recent developments, however, seem to indicate the necessity of even greater sacrifices on the part of the public at large and a more complete concentration of the energies and resources of the nation in the common defence upon activities related directly to the successful conduct of the war. In the case of passenger transportation, the usual standards of reasonable service and accommodations can no longer be applied. The most that seems practicable is to attempt to apportion the burden equitably and to see that the curtailment of service in any particular case is not disproportionate or excessive, having in mind the number of passengers affected by the change, the extent of the inconvenience suffered and other pertinent facts and considerations. In the present case the only persons seriously affected by the decrease of service are those having occasion to travel from Ware and intermediate points to Northampton on court and county business, and certain high school pupils who are somewhat discommoded by the change of the school sessions to conform to the present train schedule.

Apparently the only practicable means of obviating these difficulties is the operation of additional train service daily in each direction over the entire line between Northampton and Boston under the plan proposed by the petitioners. For all ordinary purposes the present schedule of three trains daily between these points would seem to be reasonably adequate under conditions now prevailing. The additional service desired does not accommodate any regular commercial or commuter travel, and while it would be convenient, it can hardly be regarded as essential, even for the relatively few persons who are adversely affected by the present schedule. Under these circumstances, the Commission does not feel that it would be warranted in requiring the operation of 210 additional train miles and the diversion to this service of men, motive power, equipment and fuel which are needed elsewhere. This finding is predicated upon the present war conditions, and is not to be construed as a final determination of the issues raised in the present proceeding.

It is therefore

Ordered, That the petition be dismissed.

Attest: ANDREW A. HIGHLANDS,
JUNE 19, 1918. [P. S. C. 1911] *Secretary.*

Petition of Amesbury Board of Trade relative to passenger train service on the Boston and Maine railroad.

Memorandum.

This is a petition asking that certain improvements be required in passenger train service on the Boston and Maine railroad between Boston and Amesbury. At the hearing it developed that, subsequent to the filing of the petition, a satisfactory adjustment had been reached with the railroad company. The petitioners stated, however, that they wished the Commission to consider and bring about, if possible, a further change affecting service from Newburyport. It appears that a freight engine does switching in the morning at Amesbury, leaves about 1.15 P.M. with freight cars for Newburyport, and returns about 2.15 P.M. without a load to Amesbury. The petitioners wished to utilize this engine with its crew in carrying passengers and express on this return trip. The company stated, however, that under its agreement with its employees, a freight crew cannot be used for passenger service, and that no passenger crew is available at either Amesbury or Newburyport to provide additional service at that time of day.

In view of these circumstances, the action desired is not feasible and the petition is therefore dismissed.

Attest: ANDREW A. HIGHLANDS,
AUGUST 15, 1918. [P. S. C. 1821] Secretary.

Complaint of the mayor of Gloucester concerning need of improvements in Railroad avenue, leading to the Boston and Maine railroad station in Gloucester.

Memorandum.

The subject matter of this complaint was considered in conference with representatives of the company and the city on February 7, 1917, and in accordance with their desire the case was continued for further conference between the parties, to be taken up again by the Commission on request of either party. Neither party having made such request, no further action by the Commission appears to be necessary and the complaint is placed on file subject to its being brought to the attention of the Commission at any future time by any interested party.

Attest: ANDREW A. HIGHLANDS,
JUNE 29, 1918. [P. S. C. C-972] Secretary.

Petition of citizens of Haverhill, Lawrence and Andover relative to service on the Boston and Maine railroad.

The Boston and Maine Railroad, in an endeavor to conserve fuel and labor, reduced its passenger train service wherever, in its opinion, it could be done without too serious inconvenience to the communities it serves.

In making these reductions, the company discontinued a train that formerly left Boston at 6 P.M. for Haverhill, arriving there at 6.54 P.M. stopping only at Andover and South Lawrence. A local train that left Boston three minutes later now leaves at 6 P.M., arriving at Haverhill at 7.15 P.M., or 21 minutes later than the discontinued train, making 11 stops.

The petitioners complain of the poor service between Haverhill and Boston, both morning and evening, but admit that the morning service is fair. Their chief complaint, however, is in relation to the present 6 P.M. train. They state that it is slow, overcrowded and frequently late, by reason of the large number of cars on the train and the many stops it is required to make. They ask to have the former 6 o'clock express train restored, or to have a train leaving Boston a few minutes before six and arriving at Haverhill before 7 o'clock, so that it may connect with the various street cars leaving the Haverhill railroad station for the various parts of the city and surrounding towns, as many of these cars leave on the hour. The train at present is an eight or nine-car train and takes one hour and fifteen minutes in going to Haverhill, an average speed of about 26 miles an hour. Records submitted by the company of the riding on this train in the winter of 1917 showed that it was at times overcrowded, and if more cars were added its running time would have to be still further lengthened.

Haverhill is about 33 miles from Boston, and, with the adjacent towns, claims a population of 65,000. Lawrence is but 26 miles distant and has a population approaching 100,000. The records of the riding on this train submitted by the company during the week ended November 10, 1917, showed nearly 200 people using the train from Boston to stations north of Andover. It is obvious that, in the handling of traffic to and from large centers like Boston, the more remote places like Andover, Lawrence and Haverhill should have some trains run express, or nearly so, especially during the hours when commuters ride, in order that they may travel to and from their homes and places of business within a

reasonable time, and that points not as remote should be cared for by a local and more frequent service.

The Commission believes that patrons of the road north of Andover are entitled to better service in the evening than they now receive by the train in question. In view of the abnormal conditions existing, however, the Commission does not feel justified at this time in ordering the 6 P.M. train express to Haverhill restored. It has taken up with the company the matter of readjusting its present train schedule on this division of the road. By a slight rearrangement of the present schedule, which will not, in our opinion, seriously affect the remainder of the service, it is possible to have this train leave Boston at 5.53 P.M., eliminate the stops made at Greenwood, Wakefield and Lowell Junction, and arrive at Haverhill at 6.59 P.M. Service now given by this train to Greenwood and Wakefield will be taken care of by other trains. The company has consented to make this adjustment at the time when its next change of schedule takes effect, which will be on or about September 29. The issuing of an order is therefore unnecessary, and the petition is placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 16, 1918.

[P. S. C. 1912]

Secretary.

Complaint of J. B. Cover and Company and others concerning conditions on branch track known as the Kittredge track on the Boston and Maine railroad in Lowell.

This is a complaint of certain patrons whose places of business are located upon the Kittredge track, so-called, a spur track of the Boston and Lowell railroad line of the Boston and Maine system in the city of Lowell, alleging that said track is a public track or branch of the Boston and Lowell railroad lines which are leased to the Boston and Maine railroad, and that the service rendered and facilities provided for the delivery of freight to consignees upon said track are inadequate and insufficient.

The Kittredge track, so-called, extends from the line of the Boston and Lowell railroad at Dutton street, across the Merrimack canal upon a wooden bridge, through a private way to and across Shattuck street and through a passageway or alley parallel to and about midway between Market and Middle streets. At

the lower end of this alley is another passageway, 16 feet wide, leading into Market street and open to public travel. Market and Middle streets, between which the side track is laid, are business streets upon which are located business houses of the petitioners and others. The petitioners are almost all wholesale dealers in grain, fruits, provisions or food stuffs. The passageway through which the track is laid is 16 feet wide for a little more than half its length and then widens to 20 feet at its lower end. Nearly 2,000 cars are annually set upon the track.

Where the track leaves the main line at Dutton street and crosses the Merrimack canal, the short radius of the curve upon which it is laid makes it practically impossible to move cars exceeding 38 feet in length, and cars exceeding 36 feet in length are not ordinarily placed upon it. The complainants have presented evidence that a considerable portion of the cars consigned to them exceed 38 feet in length and because such cars cannot be placed upon the track they are compelled to pay the cost of transfer or team their shipments from the main freight yards of the railroad at a cost of from \$10 to \$15 a car. The use of 40-foot cars is increasing and there was evidence that the complainants had made efforts to have shipments made to them in shorter cars, but without success.

The complainants aver that they are occasioned great expense by the inability of the railroad to place the larger cars at their warehouses, and ask that the railroad be required to widen the curve at Dutton street, over the Merrimack canal, to receive cars exceeding 38 feet in length. They contend that the track is a public track and not a private side track, and that the Commission has jurisdiction to compel a change in the location of the curve to improve service.

The railroad claims that the track is not a public track; that if it was originally a public track it has ceased to be such from the character of its present use, and urges that if it is held to be a public track, and the Commission takes jurisdiction, no order should be made because a discrimination would be created against the patrons upon other similar tracks, and the cost of the necessary relocation would be unjustifiable.

The Boston and Lowell Railroad Corporation was incorporated under the provisions of chapter 4 of the Acts of 1830. By chapter 127 of the Acts of 1856 it was authorized to build the track now known as the Kittredge track. In the act the track is referred to as a "branch of their railroad;" in operation thereof

the railroad is to be subject to the general laws relating to railroads and provision is made for the regulation of freight rates thereon. In 1855 and 1856 land owners abutting upon the passageway on which the track is located granted to the railroad easements in the passageway, one of the grantors being William Kittredge, from whom the track takes its name. These grants conveyed the right to "lay and forever maintain and use one or more railroad tracks" over such parts of the land of said grantors within the bounds described as shall be deemed expedient, and "also to connect such railroad track or tracks with such other railroad track or tracks of the said Boston and Lowell Railroad Corporation as they may likewise deem expedient." On October 28, 1857, the railroad filed in the office of the county commissioners for the county of Middlesex its location of this track which it therein described as a "branch railroad track." The Boston and Lowell railroad made payment of damages to the Proprietors of Locks and Canals for injury due to building this track across the Merrimack canal, as appears from a deed of release from the Proprietors of Locks and Canals on Merrimack River to the Boston and Lowell railroad, dated November 14, 1857. The use of steam as motive power upon the track was authorized by chapter 113 of the Acts of 1877. The railroad has maintained the track, including the bridge over the canal, since it was laid and constructed in 1857. When the track was laid it served but few shippers, but the number has increased until to-day 31 business establishments are given service upon it.

Upon these facts, which are undisputed upon the record, the Commission is of the opinion that this is a public track. The authority to construct the track was expressly given by the Legislature. Provision was made in the act that it should be subject to general railroad laws and that freight rates upon it should be regulated. Easements and land were secured and a location filed with the county commissioners, and the track has since been maintained by the railroad. It is significant that when it was sought to discontinue a similar track in Moody street in Lowell, which was originally built under the provisions of an act almost identical in language with that authorizing the Kittredge track, special legislation was secured to relieve the company from continuing to maintain it. (See chapter 213 of the Acts of 1891 and also chapter 63 of the Acts of 1893.)

The contention of the company that the track is not dedicated to public use because it does not serve the public generally is

untenable. See *Ulmer v. The Lime Rock Railroad Company*, 98 Maine 579, and cases cited. In *Ulmer v. The Lime Rock Railroad Company* the building of a branch track to serve certain quarries, a portion of said track to be subject to general laws, was held to be a public use and land for such purpose might be taken by eminent domain. In *De Camp v. The Hibernia Railroad Company*, 47 N. J. L., 43, the court said:—

This enterprise does not lose the character of a public use because of the fact that the projected railroad is not a thoroughfare and that its use may be limited by circumstances to a comparatively small part of the public. Every one of the public having occasion to send materials, implements or machinery for mining purposes into, or to obtain ores from the several mining tracks adjacent to the location of this road may use this railroad for that purpose and of right may require the company to serve him in that respect; and that is the test which determines whether the use is public.

In the case before us the track was built by an act of the Legislature, held subject to general railroad laws and maintained by the railroad, and, serving but two or three shippers when laid, now serves 31. The passageway opening into Market street presents possibilities of greater and more general use.

Having found that the track is a public track, there can be little question that the facilities provided are inadequate to meet the needs of patrons now entitled to service upon it. The petitioners are occasioned great trouble and inconvenience by the inability of the railroad to place 40-foot cars upon the track, and the increasing use of these cars in the shipment of grain, provisions and foodstuffs can but add to the difficulties. The claim of the railroad that to require the widening of the curve would create a discrimination against shippers upon similar tracks, it seems unnecessary to consider. If such a contention were tenable, the Commission would be compelled to deny, in every case, petitions for improvements of facilities, because, forsooth, respondents might be able to point to what would seem to be other instances of inadequacy of facilities or insufficiency of service.

If the Boston and Maine railroad were a company in a reasonably prosperous condition, providing, in general, adequate facilities and good service, the Commission would have little difficulty in arriving at the conclusion that an order ought to be issued directing the company to relocate and widen the curve in the so-called Kittredge track. The fact is, however, that the company has for some time been in the hands of a receiver, and that

its facilities are in many respects inadequate to meet the needs of the general public and not well adapted for the most efficient service. Under present war-time conditions, also, even prosperous companies have difficulty in obtaining capital and still greater difficulty in securing the materials necessary for construction purposes. This being the situation, it seems to the Commission that the resources of the company ought to be conserved primarily to meet the needs of the general public and that the Commission would not be justified at this time in requiring it to expend funds, even if the amount involved were relatively small, for the sake of improving facilities where at best but a limited number of individuals would be benefited. It is also true that the business concerns fortunate enough to have locations upon it are receiving even under present conditions service superior to that which is generally furnished shippers who receive freight upon public delivery tracks, and equivalent to the service furnished upon many private side tracks where the right of way and cost of construction are met by the shippers.

Under the circumstances, therefore, the petition will be placed upon file with the understanding that upon application of the petitioners the matter will be taken up for further action when conditions may better justify an order of the nature desired.

Commissioner Stone dissenting.

I do not wholly concur with the majority opinion in this matter for the following reasons:—

As I understand the history of the Kittredge track, it was originally built to serve a coal yard, that was located at the extreme easterly end of this track, belonging to one Kittredge. In order to get a track to this coal yard, it was necessary to acquire a right of way over various pieces of property belonging to several different owners, or in which they had rights. This was acquired and the track built under legislative authority, but since that time the property abutting the location of this Kittredge track has become very desirable for business purposes by reason of the facilities afforded by same, and many shippers are now located on it. In view of the circumstances connected with the building of this track, notwithstanding it is not available to the general public for the loading and unloading of freight, I am inclined to concur with my associates that technically, at least, it is a public track, but so far as its operation and use are concerned it is, to all practical purposes, a private side track, inasmuch as parties located upon it have all the advantages that

go with a private side track, with the one exception that they pay nothing for them.

It is the universal practice of railroads operating in this commonwealth to require shippers located thereon, who desire side track privileges, to pay not only for their construction but also for their maintenance. This is on the theory that the shipper derives an advantage by reason of his ability to have cars placed on his track at a point which is convenient and less expensive for him to load and unload and that as he receives these benefits he should pay for them. In fact, one shipper located on the track under consideration testified that it cost him at least \$20 a car to haul his freight from the general delivery track to his place of business.

If this is a public track, I know of no other public track at which the railroad company spots cars for shippers, located alongside, to load and unload. If it is a private track, then the shippers located thereon are receiving an advantage free, for which others are required to pay.

Section 201 of Part II, chapter 463 of the Acts of 1906, reads as follows: —

A railroad corporation shall not in its charges for the transportation of freight or in the conduct of its freight business, make or give any undue or unreasonable preference or advantage to or in favor of any person, firm or corporation, nor subject any person, firm or corporation, to any undue or unreasonable prejudice or disadvantage.

While there may be some excuse for the situation that exists to-day in regard to shippers located on this track, by reason of the laws as they were when it was built, and as they continued to be for some time thereafter when these conditions largely developed, I do not believe that this Commission is justified, under the law and present-day practices, in ordering the Boston and Maine Railroad to provide a new location and rebuild this track upon the same, at its own expense, in order that shippers located thereon may have advantages without payment therefor not afforded to others similarly situated.

It is

Ordered, That the petition be placed upon file.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

FEBRUARY 9, 1918. [P. S. C. 2060]

Complaint of R. E. Brierly concerning annoyance caused by unloading of ice by the Medford Ice Company at West Medford.

This is a complaint of certain residents of West Medford alleging that the daily unloading of ice from cars upon a side track of the Boston and Maine railroad at West Medford by the Medford Ice Company, in the early morning hours, is attended with such noise as to annoy and disturb them. At a hearing it appeared in evidence that the Medford Ice Company loads its cars daily at Penacook, New Hampshire, and the cars arrive at West Medford shortly after midnight. The Medford Ice Company has no private side track and the cars are placed upon a public delivery track just north of the West Medford railroad station, where, between the hours of 4 and 6 A.M., they are unloaded by the consignee. Other freight is delivered from this track.

While West Medford is almost exclusively a residential section, most of the houses in this immediate vicinity have been built since the side track was established, and have been erected with a knowledge that such side track existed and that freight was delivered thereon. It was suggested by the complainants that delivery might be made at some other point upon the tracks of the railroad or upon the general freight delivery track at Medford, but it appears beyond question that there is no other public track in this vicinity from which delivery might be made, and, to provide unloading facilities, it would be necessary for the railroad to secure additional land outside the limits of its right of way. It would be impracticable to make delivery at Medford because it would necessitate taking the cars into Boston and switching them to Medford, entailing such delay that delivery of ice would be made in the late afternoon, too late for unloading and distribution.

Counsel for the complainants stated that the real cause of objection is the noise caused by the unloading of the ice, and there was certain evidence presented to the effect that the employees used loud and profane language during the period of unloading the ice from the cars. Complaints of the use of loud and profane language by employees of the ice company can only be dealt with in the criminal courts, and the noise caused by the handling of the ice is also a matter which would be subject to the supervision and within the jurisdiction of the local authorities, which are naturally in a better position than this Commission to secure definite knowledge of the exact conditions. There can be little

question of the power of the board of health to make regulations, upon complaint, which would avoid such noise as would be prejudicial to the public health and comfort. In *Kineen v. Lexington Board of Health*, 214 Mass. 587, a regulation of the board of health of the town of Lexington was held to be reasonable, providing that the unloading of manure brought into the town by the railroad should be done at East Lexington and that no carload of manure should stand or remain on a track or siding of the Boston and Maine railroad, except at East Lexington, for more than twelve hours.

If the noise made by the method of unloading constitutes a nuisance, the complainants have a plain and adequate remedy in the courts. Upon the facts as presented in evidence it seems clear that the Commission should decline jurisdiction. It is therefore

Ordered, That the complaint be dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

APRIL 26, 1918. [P. S. C. Com. 1102]

Secretary.

Petition of the Boston Milk Dealers' Association relative to the character of milk transportation service upon the Boston and Maine railroad.

Memorandum.

Since the filing of this petition, the petitioner has notified the Commission that the milk service rendered to the different dealers on the various railroads coming into Boston is satisfactory at the present time. The case is therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 3, 1918. [P. S. C. 2241]

Secretary.

Petition of patrons of the Boston and Maine Railroad relative to passenger train service on the Worcester, Nashua and Portland division between Worcester and Oakdale.

Memorandum.

The matters complained of in this petition were referred to the Inspection Department of the Commission for investigation in connection with other complaints of a similar nature. As a

result of this investigation, certain changes in service have been made, which appear to be satisfactory to the petitioners, and the case is placed on file.

Attest: ANDREW A. HIGHLANDS,
APRIL 4, 1918. [P. S. C. 1903] Secretary.

Petition of Thomas L. Wiles and others relative to the discontinuance of the stopping of certain passenger trains of the New York, New Haven and Hartford railroad at certain stations in the town of Cohasset.

The petitioners desire the restoration of stops at Black Rock and North Cohasset, formerly made by the New York, New Haven and Hartford Railroad Company during the entire year, but now made during the summer months only, on train No. 5066 inbound, and train No. 5197 outbound, between Plymouth and Boston.

In the summer months, as local service between Plymouth and Greenbush is furnished by a train leaving Plymouth at 7.18 A.M. and reaching Boston at 8.56 A.M., train No. 5066 starts at Greenbush at 7.40 A.M. and, after making all local stops to and including Black Rock and North Cohasset, runs express to Boston, except for a stop at Hingham, arriving at 8.44 A.M. Under the winter schedule, the train leaving Plymouth at 7.18 A.M. is discontinued and train No. 5066 is started from Plymouth at 6.54 A.M., reaches Cohasset, after making all local stops, at 7.59 A.M., stops at Hingham but not at Black Rock or North Cohasset, and arrives in Boston at 8.44 A.M. During this period patrons from Black Rock and North Cohasset may avail themselves of local trains leaving Cohasset at 7.39 A.M. and 8.31 A.M., and arriving in Boston at 8.35 A.M. and 9.24 A.M., respectively. Those desiring to reach their places of business or employment in Boston at 9 o'clock are thus required to leave home 20 minutes earlier than during the summer months.

Outbound, there is a similar situation. During the summer, train No. 5197 leaves Boston at 5.07 P.M., runs express to Hingham and makes all local stops between that point and Greenbush, but service between Greenbush and Plymouth is furnished by a through train leaving Boston at 4.57 P.M. In the winter this service is consolidated by running train No. 5197 through to Plymouth, but the stop at Black Rock is discontinued. Service to Black Rock is, however, furnished by a local train leaving Boston at 5.13 P.M., and running as far as Cohasset.

So far as relates to the outbound service, it would appear that patrons from Black Rock are reasonably served by the local train leaving Boston six minutes after No. 5197, and that sufficient cause has not been shown to warrant the Commission in requiring a change in the company's outbound schedule. The service on the inbound morning train would undoubtedly be of considerable convenience to the petitioners, but in view of the small number affected, the Commission would hesitate to require the restoration of the stops in question if it involved substantial delay to the long distance riders who are, in any event, obliged to submit to the delay and inconvenience of a local service with stops at all stations between Plymouth and Cohasset. It appears, however, that this train leaves Cohasset and arrives in Boston at exactly the same time under the winter as under the summer schedule and that the company, owing to the requirements for a proper spacing of inbound trains at Braintree and Boston, has not found it practicable to shorten its schedule by the elimination of these stops. Under these circumstances, and so long as this situation continues, it would appear that the inbound service desired by the petitioners might reasonably be furnished without seriously discommoding other patrons or the company.

It is therefore

Ordered, That the New York, New Haven and Hartford Railroad Company rearrange its schedule for train No. 5066, leaving Plymouth on or about 6.54 A.M. and reaching Boston on or about 8.44 A.M., so that said train shall stop at the Black Rock and North Cohasset stations.

By the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 10, 1918.

[P. S. C. 1645]

Secretary.

Petition of patrons of the New York, New Haven and Hartford railroad relative to the restoration of train leaving Fairmount station at 5.21 A.M. for Boston.

Formerly a train of the New York, New Haven and Hartford Railroad Company was made up at Readville, leaving that station at 5.17 A.M. and arriving at Boston at 5.47 A.M. This train was undoubtedly a great convenience for those living at points

between Readville and Boston who were compelled to get to work at 6 A.M. The train was discontinued by the company on June 25, 1917, and the petitioners request a restoration of the service.

From counts taken by the company in the summer and winter of 1916 it appears that the average number of passengers who used this train daily was 36, of whom an average of $2\frac{1}{2}$ boarded the train daily at Readville, 4 at Fairmount, none at River street, and 1 at Morton and Blue Hill stations, making a total of less than 8 passengers from the territory west of Dorchester. The remainder, who boarded the train at Dorchester or points east of that station, could avail themselves of the service furnished by the Boston Elevated railway by leaving their homes somewhat earlier and arriving at Boston at 6 A.M. While the saving of both men and fuel by the discontinuance of this train alone is not great, in itself, the company claims that by such discontinuance and a readjustment of other train service it was able to obtain the services of an additional engine and crew for other work. Furthermore, there is at present a train leaving Readville which arrives in Boston at 6.31 A.M. On account of the small number of patrons discommoded and the need of conservation of fuel and labor, the Commission does not feel justified in ordering the restoration of this train, and the petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

FEBRUARY 5, 1918.

[P. S. C. 1871]

Secretary.

Petition of residents of Framingham and Medfield et al., relative to proposed change in passenger train service on the New York, New Haven and Hartford railroad between Framingham and Mansfield.

Memorandum.

This petition was brought owing to contemplated changes in the passenger train service of the New York, New Haven and Hartford railroad between Framingham and Mansfield. The company formerly operated between these two stations a local morning passenger train leaving Framingham at 6.20 A.M., also another at 8.27 A.M. The former train it proposed to discontinue, and to run a train leaving Framingham at 7.30 A.M. for Mans-

field, making close connections at the latter place with trains for Providence, Fall River, New Bedford and Newport. The 8.27 A.M. train it proposed to run as far as Walpole only.

The petitioners, many of whom were employed in different towns from where they lived, and who used this train to get to their places of employment, remonstrated against the change, as the 7.30 A.M. train would not allow them to reach their places of employment on time.

The company submitted data showing the earnings of the 6.20 A.M. train to be 19 cents a mile and those of the 8.27 A.M. train to be 45 cents a mile. They also submitted data showing the number of people using these trains between Framingham and Mansfield. They contended that they should not be compelled to operate a train with such low earnings and accommodating so few people, but recognized that the community was entitled to a reasonable service even though it did not in itself pay.

The company further showed that by this change they were able to utilize the services of the engines and crews on these trains to improve the service in other ways where badly needed.

Since the hearing, the company has been requested by the United States Government to conserve fuel and labor by curtailing passenger service wherever possible, and has discontinued the 8.27 train, as well, so that the 7.30 A.M. train now performs all the morning passenger service. Under the circumstances, the Commission is not disposed to interfere. Under war-time conditions, it seems to us that on a line where passenger traffic is so light, no additional service can reasonably be required.

The petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 16, 1918.

[P. S. C. 1485]

Secretary.

Petition of the New York, New Haven and Hartford Railroad Company for authority to discontinue trains Nos. 1410 and 1431 between Great Barrington and Pittsfield.

This is a petition of the New York, New Haven and Hartford Railroad Company for authority to discontinue certain passenger train service between Great Barrington and Pittsfield, which has been operated for nearly fifty years. This service was discontinued by the company in 1915, but was restored by order of

the Commission on May 2, 1916 (4 P. S. C. Report, p. 143). Subsequently, upon the petition of the company, the Commission, on October 29, 1917, authorized the company, upon certain conditions, to discontinue the service in question, so long as a state of war exists in this country, but during the period of the summer schedule only. In the present petition the company asks the Commission to reverse its finding and authorize the discontinuance of the service during the entire year. This request is based upon the general policy of the company to curtail passenger train mileage, wherever it can be reasonably done, in order to conserve labor and fuel as part of the general war program.

The considerations which seemed to the Commission to justify the retention of this service are stated in some detail in the orders already referred to, and need not be repeated here. At the hearing, however, the Commission intimated that, in view of the present emergency, it might be disposed to look with favor upon the present petition, if the New Haven company should cause the Berkshire Street Railway Company, one of its subsidiaries, to furnish improved service and facilities between Great Barrington and Pittsfield, in accordance with suggestions which were offered at the hearing. This has not been done. Indeed, the street railway service between these points, owing to severe weather conditions and other causes during the past winter, has probably been the worst in the company's history. Under these conditions, the Commission believes that the discontinuance of this service during the winter months would cause unwarranted hardship to the communities affected. The Commission realizes, however, that conditions are in some respects more acute than at the time its former order was issued, and believes that the company might reasonably be authorized to discontinue this service between May 1 and November 1 during the period of the war.

It is therefore

Ordered, That the New York, New Haven and Hartford Railroad Company be hereby authorized to discontinue, so long as a state of war exists in this country, but only during the period between May 1 and November 1 of each year, the service now furnished by passenger trains No. 1410 and No. 1431 between Great Barrington and Pittsfield.

Attest:

CHARLES E. MANN,

MAY 1, 1918. [P. S. C. 1267]

Executive Secretary.

Petition of the Uxbridge Board of Trade and others relative to passenger train service on the New York, New Haven and Hartford railroad between Blackstone and Boston, and between Worcester and Blackstone.

In this case the petitioners complained of the poor passenger service between Uxbridge and Boston, on account of the poor connections made at Blackstone, and the large number of stops made by trains between Blackstone and Boston. They also suggested that a late evening train be run from Boston to Blackstone, and from Worcester to Uxbridge. The company admitted that its service between Boston and Uxbridge was very unsatisfactory, but stated that it had under consideration, and would soon put into effect, various changes in equipment and schedules that would materially improve this service. As a general curtailment of passenger service on the entire system has been found necessary under present conditions it does not appear to be practicable at this time to require the restoration of the late trains from Boston and Worcester. Changes have, however, been made in the operating schedules of other trains which have resulted in a material improvement in the service. As the present service appears to be reasonably satisfactory to the petitioners, under existing conditions, it is

Ordered, That the petition be dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 24, 1918.

[P. S. C. 1627]

Secretary.

Petition of the towns of Rochester, Marion, Mattapoisett and Fairhaven concerning service on the Fairhaven Branch of the New York, New Haven and Hartford railroad.

Memorandum.

The Fairhaven branch of the New York, New Haven and Hartford railroad is a single track line extending from a connection with the line to the Cape at Tremont to the town of Fairhaven where a ferry carries passengers into the city of New Bedford. Under the summer schedule, there are four trains in the morning on this branch from Fairhaven to Tremont. Until last year it was the practice to reduce this schedule in the winter

months to two trains, one leaving at 6.50 A.M. and the other at 8.05 A.M. When the winter time-table became effective in 1917, however, it provided for only one train after October 15, leaving at 6.48 A.M. Upon subsequent complaint this train was taken off on November 25, 1917, and a train leaving at 8.15 A.M. was substituted. When the winter schedule became effective on September 22 of this year this latter arrangement was continued. The petitioners now ask that it be changed and that an earlier train at 6.50 A.M. be substituted.

The petition represented the unanimous action of the selectmen of the towns which the branch serves and the selectmen assured the Commission at the public hearing that the change is generally desired by the people living in that section. No opposition whatever was offered except by the representatives of the railroad. They objected on the ground that operating expense would be somewhat increased and because of the difficulty in making time-table changes, but later agreed, after conference with the Commission, to make the desired substitution, which will become effective on November 11. In view of this fact, no action on the petition is necessary and it is placed on file.

For the Commission,

ANDREW A. HIGHLANDS,
NOVEMBER 8, 1918. [P. S. C. 2282] *Secretary.*

STREET RAILWAY FARES.

Petition of residents of Islington that the fare limit on the Bay State street railway which begins at the Dedham-Boston line be extended to Highbridge in Norwood.

Memorandum.

This petition was heard on June 6, 1918. The application of the zone system of fares on the lines of the Bay State Street Railway Company, authorized in the report and order of the Commission, issued in connection with the general rate case as of this date [P. S. C. 1858, 1953, 2095], will provide substantially for the readjustment in fares desired by the petitioners. A separate finding in the case appears to be unnecessary, and it is therefore placed upon file.

Attest: ANDREW A. HIGHLANDS,
JUNE 11, 1918. [P. S. C. 1936] *Secretary.*

Petition of patrons of the Bay State Street Railway Company relative to extension of fare zone in the town of North Andover.

This is a petition, with about seven hundred signatures, asking that the limit of the so-called "city zone" on route 39 of the Bay State Street Railway Company be extended from the present point opposite the town offices in North Andover to Cheney's corner in the same town. The regular cash fare in the city zone is six cents, with free transfer privileges at the traffic center in Lawrence, but eight cents is charged to and from points on this line beyond the North Andover town offices, for rides which extend into the city zone. The distance from the Lawrence traffic center to the town offices is 2.04 miles and the total distance to the end of the line is 3.87 miles.

At Cheney's corner, which is about seventeen hundred feet beyond the town offices and 2.36 miles from the Lawrence traffic center, the plant of the Davis and Furber Machine Company is located, employing at the present time about one thousand men and engaged chiefly in government work. The majority of the employees live within the immediate vicinity of the plant, but about three hundred reside in Lawrence and use the cars of the Bay State Street Railway Company in going to and from their work. In addition, a construction company which is now doing work at the plant employs from eighty to one hundred men, who use the cars or competing motor trucks. The evidence at the public hearing indicated that it is a general practice of both groups of employees to walk the comparatively short distance from the limit of the city zone to the plant in the morning to avoid the extra two cent charge, and many of them do the same thing at night. This is also a general practice among residents of North Andover, most of whom live not more than half a mile from the town offices.

The evidence also indicated that the increase in fares has not added materially to the revenue of the company on this line, the increase in rate being offset by a decrease in traffic. At the time when the present system of fares was approved, the Commission reserved the right to receive and act without prejudice, from time to time, upon specific complaints with respect to such matters as the location of zone limits, and it was stated that "in considering such cases the principle will be kept in mind that no arbitrary distance limits ought to determine the boundaries of either the inner or the outer zone, but that these boundaries

should be fixed in accordance with population conditions." At another point in the opinion the following statement was made: —

The new schedule is an attempt to confine the inner zone within which the minimum fare is charged to the limits of the thickly settled portion of a city, rather than an attempt to reduce it to an arbitrary circular area with a radius of approximately $1\frac{1}{2}$ miles; and for this reason the precedent established is less undesirable and dangerous to the public interest. It is a well-established principle in city traffic that the short-haul offsets the long-haul riding, and on this account the central single-fare area may often, without detriment to the earnings of a company, be made much larger than would at first thought appear possible. Obviously, to use an extreme illustration, the establishment of an inner zone in the city of Boston with a radius of $1\frac{1}{2}$ miles or even 2 miles would be unwarranted and absurd.

In the present instance, the portion of North Andover between the town offices and Cheney's corner is thickly settled and geographically identified with the urban district of Lawrence. All the way from the Lawrence traffic center to Cheney's corner the territory is built up and homogeneous. On the other hand, just beyond this point conditions change and there is little population for nearly a mile. It seems to the Commission that Cheney's corner is a logical limit for the city zone, under the theory followed by the company in laying out the present system of fares, and the evidence justifies the conclusion also that such a change will have little effect on the company's revenue. If it discourages jitney competition, it may, indeed, have a favorable effect.

It is therefore

Ordered, That the Bay State Street Railway Company be hereby notified and required, within seven days from the date hereof, upon not less than one day's notice to the Commission and the general public, to modify its existing tariff, M. P. S. C. No. 78, by filing a supplement thereto extending the limit of the so-called "city zone" on route 39 from the town offices in North Andover to Cheney's corner in the same town.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 28, 1918.

[P. S. C. 2268]

Secretary.

Petitions of Representative Francis M. Hill and others relative to fares and transfers on the Bay State street railway in the town of Saugus.

Petition of Selectmen of town of Stoneham relative to issue of commutation tickets on the Fells line of the Bay State street railway.

Memorandum.

These petitions were brought at a time when the fares charged by the Bay State Street Railway Company were governed by the tariff authorized by the Commission in its report under date of July 3, 1917, and relate to conditions established by that tariff. Later, a radically different rate structure was adopted by the company and permitted to become effective, and a further comprehensive change is proposed in a new tariff awaiting action by the Commission. Inasmuch, therefore, as the conditions to which they relate no longer exist, these petitions are placed on file. Any changes in fares upon the lines in question which may now be desired by the petitioners may, of course, be brought to the attention of the Commission at the hearings upon the new schedule.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 28, 1916.

[P. S. C. 1859, 1895]

Secretary.

Petitions of Selectmen of the town of Swampscott for changes in certain fare zones on the Bay State street railway in said town.

In the report and order issued June 11, 1918, on notice of the Bay State Street Railway Company of proposed changes in rates of fare for passengers upon its railway and in workmen's and other reduced rate tickets, as set forth in schedules numbered M. P. S. C. 62, 75 and 77, with supplements thereto, the company was ordered to cancel the rates, charges and changes in fare limits and transfer privileges stated in said schedules and permitted to file a revised schedule, M. P. S. C. No. 78, to take effect upon short notice. This revised schedule was a compromise plan, resulting from conferences with the community representatives, and embodied numerous modifications in zone limits and ticket provisions.

In the said report the Commission reserved the right to receive and act without prejudice upon specific complaints with respect to extensions or limitations of zone limits, and stated that in considering such cases the principle would be kept in mind that no arbitrary distance limits ought to determine the boundaries of either the inner or outer city zones, but that these boundaries should be fixed in accordance with population conditions.

The pending petitions were brought in accordance with this reservation. On the lower Swampscott line the distance from the traffic center at Central square, Lynn, to the present first zone limit at Puritan road, Swampscott, is 1.94 miles and the distance from Puritan road to Roberts Turnout in the second zone is .21 of a mile, or about 1,100 feet. The petitioners asked that the fare zone on this line be extended from Puritan road to Roberts Turnout, which would make a total of 2.15 miles in the first zone. The petitioners claim that many persons who live beyond Puritan road walk to and from that point in order to save the extra fare in the second zone. It appears that the company has to run its cars as far as Roberts Turnout in order to cross over to the intown track. Some cars run beyond to Beach Bluff and Marblehead, but every car must go as far as the turnout, which is the end of the double track.

The district is thickly populated as far as the turnout but beyond that point sparsely settled. It is urged that, if the zone limit be extended to Roberts Turnout, no financial loss will be suffered by the company, its patrons will be greatly inconvenienced, and the sentiment of the community will be much more favorable to the company. At present there is jitney competition on this line, the selectmen having licensed one man to operate a jitney as far as the turnout; but counsel for the petitioners stated that, in the event of the extension of the zone limit to Roberts Turnout, this competition would be eliminated. The company did not seriously dispute these statements, but rested its case upon the fact that the present zone limits have been established substantially in accordance with the compromise plan above referred to, and that any marked departure from the principles therein established would create a dangerous precedent.

In its decision of June 11, 1918, the Commission pointed out that "the new schedule is an attempt to confine the inner zone within which the minimum fare is charged to the limits of the thickly settled portion of a city, rather than an attempt to reduce it to an arbitrary circular area with a radius of approximately

1½ miles, and for this reason the precedent established is less undesirable and dangerous to the public interest." In this case, as already stated, it does not appear that Puritan road is a natural division point, so far as population conditions are concerned, for the district continues to be thickly settled as far as Roberts Turnout.

The evidence shows, furthermore, that every car that goes only as far as the turnout and then crosses over to return to Lynn is empty, or practically empty, from Puritan road to the turnout, and returns empty from the turnout to Puritan road. The same condition applies to the through cars, so far as local riding is concerned, for such passengers leave the cars at Puritan road and board at the same point, and only through passengers use the cars between these two points. It is therefore obvious that the company would lose no substantial revenue by an extension of the zone limits at this point, and it is doubtful, indeed, whether it would lose any revenue whatever. On the other hand, it should gain the goodwill of the community and elimination of jitney competition.

It is the opinion of the Commission that conditions at this point are such that the extension petitioned for should be granted, and are so far peculiar to themselves that relief may be given without establishing an unsound or dangerous precedent.

On the upper Swampscott line the distance from the traffic center in Lynn to the Boston and Maine freight yard, which is the end of the first zone, is about 1.93 miles, and the distance from the freight yard to the cemetery in the town of Swampscott is about .39 of a mile. The petitioners ask that the fare zone on this line be extended from the Boston and Maine freight yard to the cemetery, which would make a total of about 2.32 miles in the first zone. Here, too, the petitioners claim that people who live beyond the Boston and Maine freight yard leave the car at that point, and walk from their homes to the freight yard to board a car for Lynn. Population conditions on this line, however, are not similar to those existing on the lower Swampscott line, for the thickly populated district ends at the freight yard, the present first zone limit, and between that point and the cemetery, a distance of .39 of a mile, is a sparsely settled district. The double track ends at or near the freight yard and cars are there turned back, so that it is not necessary to run cars to the cemetery in order to reach a crossover to the intown track. Therefore, both population and operating conditions differ on this line from those existing on the lower Swampscott line and, moreover, an exten-

sion here of the fare zone to the cemetery, a distance of over 3,000 feet, would practically eliminate the second zone entirely. Nor could the zone limit be extended, as the petitioners request, without substantial loss in revenue to the company. Under the circumstances we are of the opinion that the Boston and Maine freight yard is a logical point of division, consistent with the general plan adopted throughout the company's entire territory, and that the extension should not be granted.

It is therefore

Ordered, That the fare limit of the first zone on the lower Swampscott line of the Bay State Street Railway Company be extended from Puritan road to Roberts Turnout in the town of Swampscott, and it is

Further ordered, That the petition of the selectmen of the town of Swampscott for an extension of the first zone limit on the upper Swampscott line of said company from the Boston and Maine freight yard to the cemetery in the town of Swampscott be dismissed.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 9, 1918.

[P. S. C. 2215]

Secretary.

Petition of the Mayor of Malden relative to fares charged by the Boston Elevated railway and the Bay State street railway in that city.

Both the Boston Elevated and the Bay State companies occupy locations in the streets of Malden. On certain streets, notably Ferry and Salem streets, each company has a single track location, the tracks being used jointly, while on Main street, running north and south through the city, the Bay State company has a double-track location north, and the Boston Elevated a double-track location south, of Malden square. Cars of all lines, excepting the Fellsway line, run through Malden square, and Bay State cars from Lowell and Lawrence change crews at the square and are run to Sullivan square. Patrons of the Boston Elevated in the eastern, southern and western sections of the city must pay two fares to reach the section north of Malden square, and vice versa. The petitioner requested the company to establish a joint fare of 5 cents over the lines of the two companies between Upper Main street and other portions of the city.

Upon complaint of the mayor and aldermen of Malden this situation was brought to the attention of the Board of Railroad Commissioners in 1907. In its report under date of March 7 of that year the Board said: —

The same conditions exist at nearly all other points where interurban railways connect with the system of the Boston Elevated Railway Company. The peculiar privileges granted to that company under special laws include the right to insist upon a five-cent fare from every passenger, a right that stands in the way of any arrangement for a joint fare to be shared with other companies. The Board has no authority to suggest that the Boston Elevated relinquish a part of the fare to which it is entitled by law, and it cannot rightfully ask the Boston and Northern to render services without compensation. . . . [39 R.R. Com. Rep., p. 85.]

At the hearing on the present petition, the Commission stated its belief that it was without authority to compel the companies to arrange for either a joint fare or a joint use of tracks on Main street, and it was agreed by all parties that the decision be held in abeyance, pending further action by the Legislature.

Section 2 of chapter 159 of the Special Acts of 1918, to provide for the public operation of the Boston Elevated Railway Company, provides that the board of trustees created by the act shall have —

The right to regulate and fix fares, including the issue, granting and withdrawal of transfers, and the imposition of charges therefor, and shall determine the character and extent of the services and facilities to be furnished, and in these respects their authority shall be exclusive and shall not be subject to the approval, control or direction of any other state board or commission.

Chapter 188 of the Special Acts of 1918, relative to the Bay State Street Railway Company, in section 11, gives similar rights to the trustees which may be appointed under the provisions of the act, including jurisdiction over joint rates and fares or service with the Boston Elevated Railway Company.

The subject matter of this petition being clearly, by these enactments, placed without the jurisdiction of this Commission, —

It is

Ordered, That the petition be dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 7, 1918. [P. S. C. 1977]

Secretary.

Petition of the City of Boston for the establishment of joint traffic rates, not to exceed five cents, from Cleary square in the Hyde Park district of the city of Boston, over the lines of the Bay State Street Railway Company and the Boston Elevated Railway Company.

Memorandum.

Action on this petition was withheld pending proposed legislation affecting the Boston Elevated Railway Company. The Legislature of 1918 enacted legislation taking from this Commission jurisdiction as to fares and service of the Boston Elevated Railway Company. The petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS.

JULY 31, 1918. [P. S. C. 1866]

Secretary.

Petition of Mayor Edward R. Hathaway and Representative George E. Lilley of New Bedford relative to reduction in fares on the Union and Bay State Street railways in that city.

Memorandum.

A hearing and conference were held on the subject matter of this petition, and subsequently the companies made an arrangement for a joint service providing for the sale of 9 tickets for 50 cents, each ticket to be good for a ride from Phillips road to Weld street, which is practically half the rate formerly existing between these points. This arrangement was to continue for a three-months' period which expired on July 15, 1917, but has been continued in operation by the companies. The petition is therefore placed on file.

Attest: ANDREW A. HIGHLANDS,

AUGUST 13, 1918. [P. S. C. 1356]

Secretary.

Notice of the Berkshire Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

Memorandum.

The evidence disclosed at the hearings, recently concluded, relative to the proposed increase of rates of the Berkshire Street Railway Company, seems to indicate that the increased revenue

which is likely to result therefrom will not be in excess of the legitimate requirements of the company, and that the specific fares proposed are reasonable, as compared with those now generally prevailing on lines of other street railways in the commonwealth. While some minor adjustments of the schedules filed may be necessary to meet certain local conditions, the company's need of additional revenue is so urgent that the Commission, in the exercise of the discretion vested in it by the statute, has decided to allow the proposed rates to become effective as filed, on November 12, 1918, without formal finding thereon, and to take up immediately the questions of local fare readjustments which were raised at the hearings.

For the Commission,

ANDREW A. HIGHLANDS,
NOVEMBER 11, 1918. [P. S. C. 2305] *Secretary.*

Notice of the Berkshire Street Railway Company of proposed changes in rates of fare for passengers upon its railway.

Memorandum.

On October 9, 1918, the Berkshire Street Railway Company notified the Commission of a proposed change in passenger fares to take effect November 12, 1918, and public hearings thereon were held on November 7 and 8, 1918. Under the fare schedule filed by the company, the 5-cent unit of fare was retained, but the fare zones were decreased to approximately 3 miles for the first two fare zones from the centers of the cities, Pittsfield and North Adams, and to approximately 2 miles for the remainder of the system, and all overlapping fare zones and reduced-rate tickets were eliminated. Provision was also made for free transfers within the inner city zones between the hours of 6 and 8 A.M., 12 o'clock noon and 1 P.M. and 5 and 6.30 P.M. excepting on Sundays and holidays, and for a charge of 2 cents for such transfers during the other hours of operation.

The evidence disclosed at the hearings seemed to indicate that the rates proposed, subject to certain minor adjustments to meet local conditions, were reasonable as compared with those now generally prevailing on lines of other street railways in the commonwealth, and that the increased revenue which was likely to result therefrom would not be in excess of the legitimate revenue

requirements of the company. In view of these facts and the company's urgent need of additional revenue, the Commission, in the exercise of the discretion vested in it by the statute, decided to allow the proposed rates to become effective as filed, on November 12, 1918, without formal finding thereon, and to take up immediately the questions of local fare readjustments which were raised at the hearings.

As a result of conferences with representatives of the various communities affected and a careful investigation of local traffic conditions which have recently been completed by the Inspection Department of the Commission, the Commission is of the opinion that the following changes should be made in the fares, fare limits and transfer privileges recently established by the company:—

1. That the present fare limit at the Stockbridge-Great Barrington town line be moved southerly about .2 of a mile to the Housatonic post office in the town of Great Barrington.

2. That the fare limit at Glendale turnout in the town of Stockbridge be moved northerly about .3 of a mile to Cook's store.

3. That the fare limit at East Lee junction be moved northerly about .7 of a mile to Lee Center turnout.

4. That the fare limit at Shay's stop in the town of Lee be moved northerly about .6 of a mile to the Lee-Lenox town line.

5. That the transfer privilege from the Lenox branch to the main line be effective southerly as far as the stop opposite the New York, New Haven and Hartford railroad station at Lenoxdale, and that the transfer privilege northerly to the George Parker stop, which accommodates no local travel, be cancelled.

6. That free transfer privileges be established at Dalton Center to and from the corner of Main and East streets in the town of Dalton, so as to provide a 5-cent fare from that point to Coltsville junction and a 10-cent fare to Pittsfield.

7. That transfer privileges be established at Dalton Center permitting passengers to ride between Hinsdale and the Union Block in Dalton for a 10-cent fare, and that the hourly service between Dalton Center and Hinsdale be rearranged so as to make close connections inbound and outbound with alternate cars operating on a half-hourly schedule between Dalton Center and Pittsfield.

8. That the fare limit at Connor's stop in the town of Cheshire be moved southerly about .6 of a mile to the vicinity of the Lanesborough-Cheshire town line.

9. That the fare limit at Willow Cove station in the town of Cheshire be moved southerly about .6 of a mile to Farnams' Lime Works.

10. That the fare limit now located about .81 of a mile north of Cheshire Center waiting station be moved southerly about .6 of a mile to Bowen's corner.

11. That the transfer privileges between the West side line and the East side line at Adams Center be effective northerly on both lines as far as Lime street only, and that similar privileges be established southerly to Maple Grove turnout.

12. That the regulations for the issuing of transfers at the Williamstown "Y" be similar to those applicable under the company's present tariff to other transfer points.

The reasons for recommending these changes are described in detail in the report of the Inspection Department which is filed with the records of the case. The general policy has been to provide better accommodations for local riding, so far as practicable, without introducing overlapping fare zones or disturbing present rates for through travel. At the request of the Commission the company has agreed to file a supplementary tariff providing for the several fare readjustments above mentioned, which will become effective on December 15, 1918.

In view of the possibility of changes in prices and general economic conditions as the result of the conclusion of the war, it seems desirable that the new schedule should be regarded as experimental, and that the whole question, upon the complaint of any interested party, should be open for review at the end of a 6-months' trial period, with the burden of proof remaining upon the company to show at that time that the new fares should be permitted to remain in force.

By the Commission,•

ANDREW A. HIGHLANDS,

DECEMBER 10, 1918.

[P. S. C. 2305]

Secretary.

Petition of the Selectmen of the town of Canton relative to fares on the Blue Hill street railway.

Memorandum.

The petitioners in this case desired the restoration of the fare zones that existed on the Blue Hill street railway prior to those established under the report of the Commission of July 31, 1915,

in the Blue Hill rate case (3d P. S. C. Rep., p. 52). A hearing was had on the petition and at the suggestion of the Commission conferences were subsequently held by the petitioners and representatives of the company with a view to reaching some agreement in the matter. The parties failed to arrive at any satisfactory agreement, however, and later the property was acquired by other interests. Under date of May 15, 1918, the management of the company filed a new schedule of rates which became effective on June 15, 1918, without protest, after proper notice to all the towns in which its railway is operated. Further action upon the petition appears to be unnecessary, and it is placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 6, 1918. [P. S. C. 886]

Secretary.

Notice of the Connecticut Valley Street Railway Company of proposed withdrawal of certain workmen's tickets upon its railway.

Upon January 7, 1918, the Connecticut Valley Street Railway Company filed with the Commission notice of its intention to withdraw certain workmen's tickets in use upon its railway. Upon complaint, and pending a public hearing and investigation, this withdrawal was suspended by the Commission until March 1, 1918, and by subsequent orders to May 1, 1918.

This street railway company owns and operates about 47 miles of single track. The main line extends from Northampton, along the Connecticut river to Greenfield. Just below Greenfield, a branch crosses the river to Turners Falls in the town of Montague, and from Turners Falls a line extends to Millers Falls in the same town. From Northampton a further branch crosses the Connecticut river, terminating in the town of Amherst. For convenience, especially in accounting, four operating divisions are recognized: the Greenfield division, the Millers Falls division, the Deerfield division and the Amherst division. The workmen's tickets in question are in use only in the two first named, and no similar tickets are sold upon other parts of the road.

One of these tickets, sold at the rate of 50 for \$1.80, is in effect between Greenfield and Turners Falls. The other is in effect between Turners Falls, and Millers Falls and is sold at the rate of 25 for 90 cents. Both are good only in the hours when workmen travel to and from their work, at morning, noon and night.

Both, also, are two-part tickets and are intended to be used only for journeys covering all or portions of two fare zones. The unit cash fare throughout the system is 6 cents, but tickets are sold at the rate of 40 for \$2, good at all hours of the day and in any zone, so that frequent riders can secure a 5-cent rate. By the use of the special workmen's tickets, therefore, a ride can be secured for 7.2 cents which would cost 12 cents if cash were paid, or 10 cents if the ordinary form of ticket were used. It also seems that the separate halves of the workmen's tickets are misused to secure a ride for 3.6 cents within the limits of a single zone. This, however, is a matter which the company could correct by proper precautions and a suitable form of ticket. About 25 per cent of the riders between Greenfield and Turners Falls and between the latter point and Millers Falls use these tickets. The maximum ride in both cases is about 7 miles. In the latter case the maximum is also the usual ride, but in the former the tickets are frequently used for rides covering shorter distances.

The general financial condition of the company is poor. During the past six years the dividends paid upon the common stock have been as follows:—

	Rate (Per Cent).
1912,	1
1913,	2½
1914,	3
1915,	3
1916,	1
1917,	—

The returns have reflected the most optimistic view of the company's financial status. Little or no provision has been made for depreciation and the property has been but indifferently maintained. During the past year, as the above table shows, no dividends were paid upon the common stock and the corporate surplus was converted into a deficit. Even if liberal allowance be made for possible mismanagement, either in the past or in the present, the reasonable need of the system, as a whole, for even more additional income than it can possibly obtain from the withdrawal of the workmen's tickets is manifest.

Practically the only question at issue is whether any special conditions exist, either in the Greenfield or in the Millers Falls division, which render the continuance of these reduced rate tickets just and reasonable. In the latter case there clearly are none. The earnings of the line between Turners Falls and

Millers Falls are so low that the directors have recently taken action looking toward complete discontinuance of service and abandonment of the line on July 1 of this year. In the Greenfield division there is more basis for a special ticket rate. This division, which includes the line between Turners Falls and Greenfield, is, on the whole, the best paying portion of the system. The average receipts on all lines are about \$5,000 per mile, while in the Greenfield division they approximate \$9,000. The workmen's tickets are of long standing and, under normal conditions, might well be regarded as a reasonable concession to traffic which is regular and dependable.

Under present circumstances, however, in view of the company's financial condition and the rising tide of prices and wages by which it has been faced, we believe that its patrons, even in the Greenfield division, should be content with the reduction from the regular cash fare which can be obtained by the use of the 5-cent tickets. This is, indeed, a better rate than many railroads in the commonwealth now offer. The Commission therefore finds that the proposed withdrawal of the special workmen's tickets is just and reasonable, and an order is entered below permitting the schedule now under suspension, which provides for this withdrawal, to become effective.

ORDER.

Notice of the Connecticut Valley Street Railway Company of proposed withdrawal of certain workmen's tickets upon its railway.

It appearing that on January 26, 1918, an order was entered suspending until March 1, 1918, the rates and charges stated in the schedule described in said order and designated as Connecticut Valley Street Railway Company Supplement No. 1 to M. P. S. C. No. 1; and that by subsequent orders said rates and charges were further suspended, unless otherwise ordered by the Commission, until May 1, 1918; and it further appearing that a full investigation of the matters and things involved has been had, and that the Commission, on the date hereof, has made and filed a report containing its findings of fact and conclusions thereon, which said report is herein referred to and made a part hereof, it is

Ordered, That orders heretofore entered in this proceeding suspending the operation of said schedule be and they are hereby vacated and set aside as of April 22, 1918, and that this proceeding be discontinued. It is

Further ordered, That a copy of this order be filed with said schedule at the office of the Commission and a copy hereof be forthwith served upon the Connecticut Valley Street Railway Company.

By the Commission,

ANDREW A. HIGHLANDS,

APRIL 16, 1918.

[P. S. C. 2052]

Secretary.

Order of the Commission allowing new schedule of rates and charges for the transportation of passengers on the Holyoke street railway.

It appearing that in accordance with the findings of the Commission in its report dated December 31, 1917, the Holyoke Street Railway Company has filed a draft of a new schedule of rates and charges for the transportation of passengers upon its lines, which conforms to the views of the Commission as indicated in said report, — it is

Ordered, That the Holyoke Street Railway Company be hereby notified that it may establish on all its lines, upon not less than five days' notice to the Commission and the general public, by filing at this office and by posting in a conspicuous manner, in its waiting rooms and cars in the manner prescribed in section 20 of chapter 784 of the Acts of 1913, a printed schedule readjusting its rates for the transportation of passengers, in accordance with the findings of the Commission in its report dated December 31, 1917, and as shown in a draft of schedule on file herewith, said schedule to be designated Holyoke Street Railway Company M. P. S. C. No. 2 (cancelling M. P. S. C. No. 1).

Attest: ANDREW A. HIGHLANDS,

JANUARY 17, 1918.

[P. S. C. 1775]

Secretary.

Notice of the Massachusetts Northeastern Street Railway Company of proposed changes in rates of fare for passengers.

Memorandum.

The evidence at the hearing relative to the proposed increase of rates of the Massachusetts Northeastern Street Railway Company indicated that the increased revenue which is likely to result therefrom will certainly not be in excess of the legitimate requirements of the company. Its need for additional earnings

is so urgent that the Commission, in the exercise of the discretion vested in it by the statute, has therefore decided to allow the rates proposed to become effective without further suspension, for an experimental period of six months from November 13, 1918. The questions raised at the hearing relative to certain local fare readjustments will be dealt with by the Commission at an early date, and the company will comply with any findings relative thereto. It is also the understanding that upon the expiration of the six-months' period all rates of the company shall be subject to challenge by any interested party, and that the burden of proof shall remain upon the company to justify the retention of such rates beyond the period prescribed.

For the Commission,

ANDREW A. HIGHLANDS,

NOVEMBER 13, 1918.

[P. S. C. 2274]

Secretary.

Notice of the Norfolk and Bristol Street Railway Company of proposed change in rates of fare for passengers and adjustment of fare limits.

Memorandum.

In a communication to the Commission, dated March 12, 1918, the company requested permission to withdraw its petition for an increase in the rates of fare upon its railway. The case is therefore dismissed without prejudice.

Attest: ANDREW A. HIGHLANDS,

MARCH 19, 1918.

[P. S. C. 2061]

Secretary.

Notice of the Northampton Street Railway Company of proposed increase in rate of fare for passengers upon its railway.

E. L. SHAW } for Northampton Street Railway Com-
LOUIS D. PELLISSIER } pany.

J. C. HAMMOND for City of Northampton.

M. SEELYE HITCHCOCK for Town of Easthampton.

A. G. CONE

A. J. POLMATIER

} for Town of Williamsburg.

Memorandum.

On April 10, 1918, the Northampton Street Railway Company filed with the Commission notice of a proposed increase in fares in the form of a tariff which was to become effective May 12, but which was later suspended by the Commission until July 1, 1918.

Public hearings were held on May 7, 1918, and on June 27, 1918. At the hearing on May 7 it was suggested by certain counsel for the remonstrants that it would be wise to continue the hearing to await results in regard to certain important pending legislation in regard to street railway companies. Counsel for the company acquiesced in this proposition and the hearing was continued to June 11, and was later postponed to June 27, 1918.

On June 27, 1918, a conference was held by the remonstrants and the company, at which a tentative agreement was reached, pending the decision of the company relative to its adoption of the Service-at-Cost plan, so called, which is provided for by chapter 280 of the General Acts of 1918.

The Commission will, therefore, allow the tariff as filed, with the modifications agreed upon, to become effective upon short notice without suspension or further investigation. It is to be understood, however, that this is a temporary adjustment based upon the present emergency, rather than a permanent finding on the issues raised in this case, and that the communities affected shall be entitled to further hearing upon any subsidiary matters within a short time after the new tariff goes into effect, unless it appears that the company itself is likely to raise the whole issue within a short time by itself filing a revision of fares under the Service-at-Cost plan.

By the Commission,

ALLAN BROOKS,
Assistant Secretary.

JUNE 29, 1918. [P. S. C. 2107]

Notice of the Springfield Street Railway Company of proposed increase in rates for passengers upon its railway.

Memorandum.

During the pendency of these proceedings before the Commission a modified schedule of fares was agreed upon by parties in interest. The modifications were subsequently embodied in tariff M. P. S. C. No. A-6, filed with the Commission on September 14, 1918, and, under special permission, became effective on September 16, 1918.

For the Commission,

ANDREW A. HIGHLANDS,
SEPTEMBER 16, 1918. [P. S. C. 2250] *Secretary.*

Notice of the Worcester Consolidated Street Railway Company of proposed change in rate of fare for passengers upon its railway.

Memorandum.

On May 31, 1918, the Worcester Consolidated Street Railway Company filed with the Commission a new schedule of passenger rates, effective July 1, 1918, under which the unit of cash fare was to be changed from 5 cents to 6 cents upon all of its lines except those located within the central district of Worcester, where the 5-cent rate was to be retained and a charge of 1 cent made for transfers. Under this tariff, also, all reduced-rate tickets were cancelled.

Subsequently the company modified this tariff by eliminating the proposed charge of 1 cent for transfers on the Worcester lines, and, at the suggestion of the Commission, also restored the existing tickets. In view of these modifications and of the fact that very few complaints have been received, the Commission did not feel that the schedule ought to be suspended, and has permitted it to become effective on the designated date. This action was taken, however, only after the company had agreed in writing to assume and carry the burden of proof in any hearings had upon complaints now or hereafter filed with the Commission, in the same manner and with the same effect as if the tariff had been suspended and hearings held thereon.

Attest: ANDREW A. HIGHLANDS,
JUNE 28, 1918. [P. S. C. 2167] Secretary.

Petition of the Worcester and Warren Street Railway Company for such relief as will enable it to continue the operation of its railway.

Memorandum.

This petition was the subject of an informal conference with the Commission, representatives of the company and of the towns served by its railway being present. Following the conference a new schedule of rates was filed and allowed to become effective December 13, 1917, which increases the fare from seven cents to ten cents.

Attest: ANDREW A. HIGHLANDS,
JANUARY 2, 1918. [P. S. C. 1962] Secretary.

STREET RAILWAY SERVICE.

Petition of patrons of the Bay State Street Railway Company protesting against the proposed discontinuance of service on the line between Mann's Corner and Assinippi in the town of Hanover.

Petition of selectmen of Wilmington protesting against the proposed discontinuance of service on the line of the Bay State Street Railway Company between Wilmington square in Wilmington and Billerica Center in the town of Billerica.

Petition of residents along the line of the Bay State street railway from Lakeville Town House in Lakeville to Elliott's Corner in the city of Taunton, protesting against the proposed discontinuance of service on said line of railway.

In the spring of 1917 the Bay State Street Railway Company gave public notice of its intention to discontinue service on its line between Mann's Corner and Assinippi in the town of Hanover; on its line between Wilmington square in Wilmington and Billerica Center in the town of Billerica; and on its line between Lakeville Town House in Lakeville and Elliott's Corner in the city of Taunton. Patrons of these three lines protested against the proposed discontinuance of service and petitioned the Commission for hearing thereon.

As the result of hearings upon the three petitions, on April 6, 1917, the parties agreed to an adjournment in order to afford an opportunity for conference between the company and the petitioners and to ascertain whether some practicable plan could be devised, with the co-operation of the communities affected, which would permit the retention of service on these lines. It was also agreed that, pending further action, the existing service should be maintained. As no adjustment between parties resulted in the conferences held, the cases were set down for further hearing on December 18, 1917. By consent of all parties, action upon these cases has been deferred by the Commission. Meantime, a reduced service has been given on the Mann's Corner-Assinippi route and on the Lakeville-Elliott's Corner route, and service on the Wilmington-Billerica Center route has been entirely abandoned since December of last year. The company now desires authority to discontinue service on these lines, and has requested the Commission to take action upon the pending petitions.

Recently the receiver of the company has petitioned the United

States District Court for authority to discontinue service upon a large number of other lines on the Bay State system. Upon such of these lines as the receiver believed to be in an unsafe operating condition the court has already authorized the discontinuance of service, and on the remaining lines proceedings are still pending. It is unnecessary at present to attempt to define to what extent, if any, the Commission has jurisdiction to deal with the pending petitions, now that the general question of discontinuance of service on the lines of the Bay State Street Railway Company is in process of adjudication by the court. In any event, it is manifestly desirable that the same procedure should be followed in all cases involving the discontinuance of service on the various lines of the Bay State Street Railway Company. At the suggestion of the Commission, the company has agreed to amend its pleadings in the United States District Court by asking for authority to add these three lines to the list of lines upon which the discontinuance of service has already been requested. The petitioners will thus be afforded an opportunity of trying out the issue before the court in the same manner as the patrons of other lines where a discontinuance of service is proposed by the company.

It is therefore

Ordered, That the petitions be placed on file.

By the Commission,

ANDREW A. HIGHLANDS,

DECEMBER 16, 1918.

[P. S. C. 1714, 1715, 1719]

Secretary.

Petition of the Bay State Street Railway Company for suspension of the order of the Commission, dated March 1, 1917, requiring the restoration of certain car service from May 1 to November 1 of each year, upon the Lowell-Reading, Malden-Revere and Gloucester-Rockport routes of its railway.

The Commission, in an order entered on March 1, 1917, upon sundry petitions relative to reductions in service, made or proposed to be made upon certain lines of the Bay State Street Railway Company, approved certain changes in service on the Lowell-Reading route, the Malden-Revere route and the Gloucester-Rockport route, but provided that the service in effect on the last-named route prior to October 29, 1916, and the service in effect on the other two routes at the date of the order "shall

be resumed on the first day of May and be continued to the first day of November in this and each succeeding year, unless otherwise ordered" [5 P. S. C. Rep., p. 197]. The practical effect of that order was to permit the substitution of an hourly for a half-hourly service on these three lines during the first four and the last two months of each calendar year, but to require the retention of the half-hourly service from May 1 to November 1, because of the heavier traffic during that season.

In the pending petition the company has requested the Commission to suspend, modify or revoke so much of said order as relates to the service on the three routes above named from May 1 to November 1 of each year. The company claimed that the half-hourly service required was in excess of traffic demands during a large part of this six-months' period, and that the elimination of this waste mileage was necessary for the proper conservation of the fuel supply, in accordance with recommendations made to the various street railway companies by the New England Fuel Administrator.

At the hearing patrons of the Lowell-Reading and the Gloucester-Rockport lines objected to the proposed reduction of service, but no opposition developed to the similar reduction proposed upon the Malden-Revere line. The company stated that, in its opinion, the half-hourly service would be found necessary during July and August and a portion of June and September, but that an hourly service, with additional trips during the rush hours when required, would be sufficient for the remainder of the year. Upon the understanding that the company would provide adequate service upon the basis of the actual traffic requirements, the Commission informally waived compliance with its order of March 1, 1917, pending the consideration of its revocation. Under this arrangement service was furnished on the Malden-Revere and the Gloucester-Rockport lines on a half-hourly schedule throughout the day from the latter part of June until Labor day, and since that time on an hourly schedule except during the morning and evening rush hours and on special occasions of heavy traffic, when the half-hourly service has been retained. On the Lowell-Reading line during the summer months the half-hourly service was operated on Saturdays and Sundays for the entire day, but on the remaining days of the week during the morning and evening rush hours only.

From traffic observations made upon these lines it appears that during the periods when hourly trips have been run the serv-

ice has proved sufficient to meet actual traffic demands and to prevent overcrowding. Doubtless a more frequent service would be of convenience to the public, but under present war conditions ordinary standards of public convenience must yield, in some degree at least, to the necessities of the war situation and the requirements of the national program of conservation of labor and fuel. The changes made upon these lines appear to be incidental to the company's general program of elimination of non-essential car mileage, the only difference being that there were no outstanding orders of the Commission to prevent the company from making similar changes on other lines upon its own initiative. The company's schedule of operation upon the three lines now under consideration seems to be consistent with the general standard of service upon lines of similar traffic density upon the company's system as a whole, and does not appear to have resulted in exceptional or undue hardship.

A modification of the requirements of the Commission's former order seems to be demanded by changes in conditions which have already taken place and further changes which are likely to result from the enlargement of the national war program. In view of the uncertainties of the present situation it does not seem desirable to attempt to lay down any rigid standard of service by prescribing a specific schedule for future operation, but rather to require the company to furnish such service and accommodations as may, in view of the conditions from time to time existing, appear to be reasonably necessary in the public interest.

It is therefore

Ordered, That so much of the order of the Commission under date of March 1, 1917, as requires the Bay State Street Railway Company to furnish a half-hourly service throughout the day from May 1 to November 1 of each year on the Lowell-Reading, Malden-Revere and Gloucester-Rockport routes be hereby suspended until otherwise ordered by the Commission.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 26, 1918.

[P. S. C. 2123]

Secretary.

Petition of citizens of Lowell et al. that the Bay State Street Railway Company be required to build an extension of its Chelmsford-street line through Lincoln square, Lincoln street and Main street in the city of Lowell.

The petitioners in this case ask to have the Bay State Street Railway Company build upon a location which its predecessors in title, the Boston and Northern Street Railway Company, obtained from the city government of Lowell in 1901. One of the conditions of this grant of location was that its construction should be completed within two years from the date of the passing of the resolution. No evidence was introduced at the hearing showing that any action has since been taken by the city, requiring the company to build upon this location, nor was any claim made that the company was now legally bound to do so.

The length of the extension asked for would be about 3,800 feet. The territory that it is intended to serve is in that part of Lowell known as Ayers City, situated about one and one-half miles from Merrimac square, about midway between two lines of the Bay State street railway, one on Chelmsford and the other on Gorham street. The distance between these two street railway lines at the terminus of the proposed extension is about 4,500 feet, so that the maximum walking distance at present for the people living in this territory would be about half a mile. The petitioners contend that the district has been greatly retarded in growth by reason of inadequate street railway facilities, that the lack of such facilities is a great inconvenience to residents of the locality, as well as to those employed in the manufacturing establishments located near there.

The company estimates that to build this extension would cost about \$35,000, and to operate the line on a half-hourly basis would increase operating expenses about \$7,000 annually; that the business they would derive from it would not warrant its construction and operation and that they are in no condition financially to undertake it. While it may be that the proposed extension in itself would not yield sufficient additional revenue to pay its operating expenses and fixed charges, this fact alone, we realize, should not be wholly controlling. The section is especially well adapted to manufacturing, on account of its proximity to the railroad and the business center of the city, and it would be a mutual benefit to both the property owners

and the city if it had better street railway facilities. The Commission is of the opinion that, if times were normal and the company could raise the necessary capital, action might well be taken to secure the building of the desired extension. Present conditions, however, clearly make it necessary to postpone consideration of such a project. The petitioners are, therefore, given leave to withdraw without prejudice.

For the Commission,

ALLAN BROOKS,
Assistant Secretary.

AUGUST 22, 1918. [P. S. C. 1684]

Petition of patrons of the Bay State Street Railway for restoration of service on the Belt line, so called, in Lynn.

The Lynn Belt Line street railway was chartered in 1889, and was first operated on May 30, 1890. The cars ran from a point near Central square through East Lynn, Glenmere, West Lynn and back to the starting point, a circuit of about six miles. In 1892 it was purchased by the Lynn and Boston (now the Bay State) Street Railway Company, and through the process of development of the local service, parts of the Belt line were absorbed by other lines. During the work of grade crossing separation in Lynn, the portion of the Belt line in East Lynn and West Lynn ceased operation, and another line of the system, paralleling the Belt line for most of the distance in East Lynn, was used by patrons of the company. Many of these patrons continued to use the alternate line, after operation on the East Lynn section of the Belt line was resumed, in conjunction with the Walnut street line, from Central square to the Myrtle street car barn in West Lynn. Recently, in a general re-routing of cars, the East Lynn section of the Belt line was discontinued, as was the Walnut street line.

The petitioners protest against this abandonment on the ground that the line as formerly operated in East Lynn was a great convenience in enabling patrons to go directly to the Central and Narrow Gauge railroad stations, and that many employees in several large shoe factories and other industrial establishments are left without accommodation.

The respondent company believes that these patrons are as a whole well accommodated by lines still in operation, and points

out that the abandonment of this line as non-paying was recommended by Mr. Bion J. Arnold, in a survey made for the Commission in connection with the Bay State rate case in 1916. At that time the Commission found that the company should have earnings of at least \$2.56 an hour upon this line to recompense it for its expenditures thereon. When it was operated alone, it showed earnings of about \$1.25 an hour and this figure was increased when the line was coupled with the Walnut street line to \$1.53 an hour. It is also stated that a large portion of the track on Brookline and Eastern avenues must be rebuilt if service on the line is restored, at an estimated expense of \$30,000.

Under the circumstances, the Commission is satisfied that it would not be justified, in view of the present financial condition of the company, in ordering the restoration of this service, at a heavy initial expense for track reconstruction and at a daily expense for operation, from which experience has shown the company cannot hope to receive anything approaching an adequate return, and in view of the fact that the service now given in the easterly section of Lynn appears to meet the reasonable service requirements of the patrons of the Bay State street railway.

It is therefore

Ordered, That the petition be dismissed.

By the Commission,

ANDREW A. HIGHLANDS,

AUGUST 2, 1918. [P. S. C. 1987]

Secretary.

Complaint of selectmen of North Andover concerning discontinuance of certain car service on the Andover-Haverhill line of the Bay State street railway.

Memorandum.

A conference was held on the subject matter of this complaint on October 29, 1917, at which the company agreed to investigate the conditions complained of, with a view to furnishing the service desired. Under date of November 28, 1917, the Commission received a communication from the general manager of the company, stating that arrangements had been made satisfactory to the selectmen of North Andover and to the workers

in whose behalf the complaint had been brought, and a copy of this communication was thereupon sent to the complainants. The complaint is therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 16, 1918.

[P. S. C. Com. 1264]

Secretary.

Petition of citizens of Revere relative to the establishment of a waiting room on the line of the Bay State street railway at the corner of Park avenue and Broadway in that city.

Upon this petition a conference was held between the Commission, representatives of the petitioners, and officials of the Bay State Street Railway Company. The company operates a branch line about 3,300 feet long in Yeamen street and Park avenue, known as the Park avenue line, in the city of Revere which joins its Broadway line from the westerly side. About 200 feet to the north another line, leading to Revere Beach, joins the Broadway line from the easterly side at a point called Central square. In 1910 and 1911 the company had an arrangement with the proprietor of a drug store located at the southerly corner of Park avenue and Broadway, whereby patrons of the road were allowed to use the store as a waiting room. This arrangement was discontinued for two years, but in 1914 it was renewed. In April, 1917, the company, with a view to conserving its resources, decided to discontinue this arrangement. Because of this discontinuance the petitioners filed the present complaint and ask that a transfer or waiting station be maintained at this point.

The company now has a waiting room in a store on the easterly side of Broadway, between Central and Park avenues, which is but 150 feet distant from the drug store in which the waiting room was formerly located; but the petitioners contend that its location is inconvenient for those using the Park avenue line and exposes them to the dangers incident to the heavy traffic through Broadway.

The service on the Park avenue line, so-called, is operated by through cars to Boston on a 15-minute headway until 7.53 A.M., when it is changed to shuttle service, which runs on a 30-minute headway, except between the hours of 4.53 P.M. and 7.23 P.M.,

when it is on a 15-minute headway. The running time between Broadway and the end of the line is but 4 minutes, and as the lay-over is at the Broadway end, the car may be used as a waiting room under the half-hourly schedule of operation. Cars on the Broadway line pass Park avenue in each direction every few minutes.

In view of the circumstances and the depressed state of the company's finances, the Commission will not require it to incur the expense necessary to maintain an additional waiting room at this point, and the petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

NOVEMBER 25, 1918.

[P. S. C. 2044]

Secretary.

Petition of mayor and municipal council of Revere relative to joint service between that city and Boston on the Bay State Street railway and the Boston Elevated railway.

Memorandum.

Since the hearing on this subject the companies have restored the joint through service on Sundays and holidays between Revere Beach and Boston, via the East Boston tunnel, inaugurated during the last summer season, while the unusual shortage of men and other reasons seem to make impracticable, at this time, the establishment of additional joint service for evenings and Saturday half holidays. The petition will, therefore, be placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 2, 1918.

[P. S. C. 2090]

Secretary.

Petition of the selectmen of Lanesborough and residents of Cheshire and Lanesborough for restoration of service on line of the Berkshire street railway from Lanesborough to Cheshire Center.

In December, 1917, the Berkshire Street Railway Company, on account of unusually severe weather conditions, discontinued the operation of a portion of its Cheshire-Lanesborough line and

has refused to resume service thereon. The portion of the line under consideration extends from the waiting station at Lanesborough Center to the junction of this line with the Berkshire Division or main line of the company at Cheshire Center, a distance of 5.05 miles. The petition asks for the restoration of service on this line on a two-hourly schedule similar to that rendered in 1917, but it was stated at the hearing that a limited number of trips in the morning, at noon and in the evening would be satisfactory.

As the easterly portion of the line from Cheshire to the small village of Farnum at the Cheshire-Lanesborough town line practically parallels the line of the Berkshire Division of the company, being in only one place as much as 800 feet away from it, the people of this section are afforded reasonable accommodations by the service furnished on the Berkshire Division. From Farnum to the west end of the private right of way at Lanesborough Center, a distance of about $2\frac{1}{4}$ miles, there are only seven houses. Four of these are from .66 of a mile to 1.3 miles from Lanesborough Center and the remaining three are from .4 of a mile to 1.5 miles from the Berkshire Division at Farnum.

Lanesborough and Cheshire are small towns situated in different valleys, separated by a mountain range and apparently have little community of interest, these facts resulting in a very small amount of travel between the two towns. From traffic counts made by the company and submitted at the hearing it appears that even at the height of the summer season, obviously the best season for a line of this character, there is an average of not more than two passengers per car mile.

Since the hearing was held the Commission has received a letter from Mr. Henry I. Newell, former chairman of the board of selectmen of Lanesborough and one of the petitioners, suggesting that the company operate a belt-line service of eight cars a day between Pittsfield and Cheshire, four cars going by way of Lanesborough and returning by way of the main line through Berkshire Village, and four cars going by way of the main line and returning by way of Lanesborough. It was estimated by the company that this would involve a car mileage of about 175 miles per day, the round trip being between 22 and 23 miles. All of this trackage, with the exception of that between Lanesborough Village and Cheshire Village is covered by the service at present rendered by the company. Counts taken by the company in 1917 show that the fares collected on the portion of the

line discontinued amounted on the average to \$75 per week. The company further estimates that the cost of operation for the service requested would be about \$306.25 per week, showing a loss of \$231.25 per week or about \$12,025 a year.

Chapter 288 of the General Acts of 1918 provides that "any city or town may during the period of the present war or for two years following its termination as defined by federal authority, upon such terms and subject to such restrictions as may from time to time be approved by the public service commission as consistent with the public interest, contribute to the cost of operation and fixed charges within such city or town of any line or lines of a street railway company, to an amount not exceeding one dollar per one thousand dollars of the preceding year's assessed valuation in any town, and not exceeding fifty cents per one thousand dollars valuation of the preceding year's valuation in any city." The assessed valuation of the town of Lanesborough for 1917 was \$845,719, and for the town of Cheshire, \$899,366. Even if these towns should accept the provisions of this act — and they have not indicated any intention of doing so — the total contribution of both towns would amount to only \$1,745.03 a year. This sum would therefore have no appreciable effect on the cost of operating even the reduced service suggested by Mr. Newell. The terms of the above statute, therefore, can afford no substantial relief in this case.

A demand has been made upon the company by its employees for a substantial increase in wages and the Commission understands that since the hearing the arbitration board has granted an increase which is expected to amount to nearly \$100,000. In common with other street railway companies the Berkshire Street Railway Company will also have to pay more this year for coal and other materials and supplies.

The Commission has been requested by the United States Fuel Administration to aid in the saving of fuel by suggesting that stops on street railway lines be limited to eight per mile in business districts, six per mile in residence districts and four per mile in country districts, and by urging the companies to eliminate all stops on cars going up hills and around curves. The Commission has further been requested to urge that the heating of cars be eliminated, except in very cold weather, and then that only sufficient heating be used to prevent actual discomfort and danger to the public health. It is obvious that these requests are made for the purpose of saving coal, and that such a saving is, and will continue to be, an actual necessity.

The company claimed that there is no place on the system where coal can be saved to more advantage than by discontinuing service on this line. It was further stated that on two or three occasions last winter the company was within half an hour of shutting down its entire system, owing to lack of coal supply and that, in all probability conditions next winter will be just as bad, possibly worse, as far as the supply of coal is concerned.

The Commission is of the opinion that under present conditions a sufficient case has not been made to justify the entry of an order for the restoration of the service petitioned for, for the limited service requested at the hearing, or even for the loop service requested by Mr. Newell. Conservation and economy are necessary if the system is to be kept going at all, and such an order would compel the company to operate more than five miles of road over the divide between the Housatonic and the Hoosac rivers, across the foothills and adjacent side valleys, with heavy grades averaging about $8\frac{1}{2}$ per cent and sharp curves, through a country where abundant snows make it very difficult if not impossible to keep the line open in winter. In an attempt to make a saving, in accordance with the request of the United States Fuel Administration, the company has eliminated service on the line where there was the least business, where the grades and curves are worse than on any other part of the system, operation more difficult and the cost higher. The number of people discommoded is very small and they are not entirely deprived of service as they can still use the main line by traveling a somewhat greater distance.

It is therefore

Ordered, That the petition be dismissed.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 20, 1918.

[P. S. C. 2133]

Secretary.

Petition of residents of Pittsfield and Dalton for restoration of former schedule of service on the Berkshire street railway.

Memorandum.

A hearing was assigned on this petition for September 26, 1918. Prior to the date of the hearing, counsel for the petitioners notified the Commission that an agreement had been reached with

counsel for the company to have the hearing continued generally, and since that date an agreement, signed by counsel for the petitioners and the street railway company, has been received, consenting to the continuance of the hearing. The case is therefore placed on file, without prejudice.

For the Commission,

OCTOBER 7, 1918. ANDREW A. HIGHLANDS,
[P. S. C. 2119] *Secretary.*

Petition of Minot F. Davis relative to service on the Boston Elevated railway on Charles street in Boston.

Memorandum.

The Boston Elevated Railway Company formerly operated a surface line between City Point and Kendall square via Charles street, but abandoned this service upon the opening of the Dorchester tunnel. The petitioner claimed that this line had been a great convenience to patrons of the company residing on Charles street and should be restored. During the progress of the hearing it appeared that the situation had been aggravated by the absence of signs showing the route and destination of the cars now operated on Charles street, and arrangements were made for the proper marking of these cars. The Commission intimated that the situation might be improved by rearrangement of the routes. Section 2 of chapter 159 of the Special Acts of 1918, to provide for the public operation of the Boston Elevated Railway Company, commits to the board of trustees created by the act the duty of determining the character and extent of the service and facilities to be furnished. The Commission will therefore take no action in this case, which is filed without prejudice.

For the Commission,

AUGUST 2, 1918. ANDREW A. HIGHLANDS,
[P. S. C. 2047] *Secretary.*

Petition of William T. Mignault and other residents of the Dorchester district of the city of Boston relative to service and accommodations on the Boston Elevated railway.

Petition of the Dorchester Board of Trade relative to inadequate service furnished by the Boston Elevated Railway Company in the Dorchester district of the city of Boston.

The petition of William T. Mignault and others was filed and set down for hearing about two years ago. The petitioners desired the elimination of the 20-foot articulated cars then being used in the Dorchester district, the operation of additional car service on certain lines, the proper heating of cars during the winter months and the maintenance of the cars in a clean and sanitary condition.

The evidence presented at the hearing, and an investigation by the Commission showed that the street railway service in the Dorchester district was extremely poor. Primarily, more and larger cars were needed for the proper handling of the traffic. Because of the narrow spacing of the tracks at many points, semi-convertible cars could not be operated, the only large units available being the articulated cars, which were largely of the 20-foot single-truck type. These cars, by reason of their slow loading, proved ill-suited to congested conditions of travel and were very unpopular on account of their uncomfortable riding quality. It appeared also that an insufficient number of cars were run during the rush hours, and that there was much overcrowding. The Commission, through its members and its inspection department, kept service conditions in this district under constant observation, held many conferences with representatives of the company, and made a number of recommendations looking to a betterment of the service.

Among other things, the Commission recommended that the company proceed as soon as practicable to widen its tracks and make other necessary track repairs on the main avenues of travel in Dorchester, and that the company, until such time as the track reconstruction made it possible to operate semi-convertible cars, should replace the 20-foot single truck articulated cars with 25-foot double truck articulated cars which ride more smoothly, start easily without jolting, and carry a large load without overcrowding. The Commission also recommended the re-routing of certain lines, as well as the operation of additional trips during certain hours, and as a result of a careful inspection of the car

equipment at all car houses in the Dorchester district specific recommendations were made in regard to the repair, cleansing and painting of cars. As the result of these recommendations some improvement was made in the equipment and service in this district, but the company, owing to its financial condition, found it impossible to carry out any comprehensive plan for the betterment of the service.

During the past winter the service on all lines was adversely affected by unfavorable weather conditions, scarcity of labor, lack of necessary equipment and delayed deliveries of cars and other materials previously ordered by the company. The opening of the Dorchester tunnel as far as Broadway station, on December 15, 1917, and the re-routing of Dorchester as well as South Boston lines, to the lower level of that station resulted in congestion and generally unsatisfactory operation. It was for the purpose of securing relief from these conditions that the petition of the Dorchester Board of Trade was filed with the Commission. Upon this petition hearings were held on January 9, 11 and 12 of the present year, and further conferences were held between representatives of the petitioner and of the company. As the result of these hearings and conferences, certain lines were re-routed and other rearrangements of service were made and certain changes were made in the methods theretofore employed by the company in securing new employees, as described in detail in a letter to the Commission under date of January 29, 1918, by Daniel T. O'Connell, Esq., counsel for the petitioner. These changes resulted in a distinct improvement of the service, and in meeting the complaint of the petitioner in so far as it was practicable to do so.

Since that time the Dorchester tunnel has been opened for travel to its terminus at Andrew square, and the Dorchester lines have been re-routed to that point. The surface tracks on Dorchester avenue have also been widened for the entire distance between Andrew square and Milton, thus making it possible for the first time to operate the semi-convertible cars over that route. Locations for track widening on other streets in the Dorchester district have been obtained, and it is expected that the work of construction will be undertaken within a few months. The 20-foot articulated cars have been practically eliminated from the Dorchester lines and such articulated cars as are still run are of the 25-foot type. A further improvement will be made when the new trailer cars which the company expects to

receive within a short time are put in operation. At a later time a considerable number of the new center-entrance cars recently ordered by the company should also be available for service in this district. With these and other improvements made possible by the remedial legislation recently enacted for the Boston Elevated Railway Company, the residents of Dorchester may confidently anticipate receiving reasonably adequate street railway service in the near future. As the Commission no longer has jurisdiction over the service of the Boston Elevated Railway Company, no further action can be taken at this time, and the petitions are therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 14, 1918.

[P. S. C. 1254, 2018]

Secretary.

Petition of Representatives Edward I. Kelley and William H. Hearn relative to the inadequate service furnished by the Boston Elevated Railway Company to the East Boston district of the city of Boston.

Memorandum.

The evidence introduced at the hearing upon this petition, together with the observations of the inspectors of the Commission, demonstrated that the complaints of the petitioners were warranted, that much trouble had been experienced with the cars used by the Boston Elevated Railway Company in the East Boston district, and that service was irregular and inadequate. In some measure this unsatisfactory service had been due to causes beyond the company's control. Unavoidable delay in securing the new cars purchased as a result of the Commission's order dated July 13, 1916, had played a part, and also the unusually severe weather conditions of the past winter.

Prior to the petition, the Commission, as a result of informal complaints, had taken the matter up in conference with the company and efforts to secure an improvement in the service were continued after the hearing by the Inspection Department. As a result, much has been done by the company to restore the equipment in this division to proper condition and, upon the recommendation of the Commission, two-car trains have been

put into operation on the line between Orient Heights and Bowdoin square. On April 20, 1918, a new time table, providing for such operation, became effective. It calls for two-car trains on a five-minute headway, both morning and evening, the entire distance on this line, and also for an overlapping five-minute schedule as far as Day square, thus giving a two and one-half minute headway between Bowdoin square and this point. In this Day square service single cars and two-car trains alternate. The new time table also provides for shuttle service all day long between Day square and Central avenue in Chelsea, as suggested at the hearing. Heretofore, cars on this line have been operated through to Bowdoin square in rush hours, and it was felt by the petitioners that this through operation interfered with the service on the much more important Orient Heights line.

The Inspection Department has been informed by the petitioners that the service in East Boston has been much improved since the hearing, and they are content that the case should be placed on file without further action. The Commission will, however, continue to keep the East Boston service under observation and will reopen the proceedings if necessity arises.

For the Commission,

ANDREW A. HIGHLANDS,

MAY 10, 1918. [P. S. C. 2064]

Secretary.

Complaint of special committee of Cambridge City Council concerning car service at the Harvard Station of the Boston Elevated railway.

Memorandum.

Formal and informal conferences were held on the subject matter of this complaint, and subsequently the company made certain rearrangements of service which have improved conditions on that part of the Harvard Station allotted for the use of the public residing north of Harvard square. The complaint is therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

AUGUST 2, 1918. [P. S. C. 1420]

Secretary.

Petition of the residents of Cambridge relative to service on the Broadway line of the Boston Elevated railway in that city.

Memorandum.

Upon this petition (transferred from complaint No. 1109) a public hearing and conference have been held. The matter was later taken up with the officials of the Boston Elevated Railway Company and the Commission found that alternative plans were available for a rearrangement of the present service without increasing the number of crews and cars now operated.

Plan 1 provides for the operation of a line on a twenty-minute headway during normal hours and a fifteen-minute headway during rush hours from Harvard square to Central square, and another line on the same headway between Harvard square and Kendall square. Passengers from upper Broadway desiring to travel to Boston, and who are willing to go either to Central square or to Kendall square, would thus have a ten-minute service during normal hours and a seven and a half-minute service during rush hours, inbound, but outbound would have only a twenty-minute service during normal hours and a fifteen-minute service during rush hours. Plan 2 provides for the operation of a line on a fifteen-minute headway during normal hours and on a ten-minute headway during rush hours from Harvard square to Central square and from Central square to Kendall square, inbound and outbound.

The company and complainants having agreed on the adoption of Plan 2, the petition will be placed on file.

For the Commission,

FREDERICK J. MACLEOD,

JUNE 29, 1918.

[P. S. C. 2046]

Chairman.

Petition of residents of Somerville relative to service between Winter Hill and Boston on the Boston Elevated railway.

Memorandum.

The petition contemplates the restoration of a line of surface cars which the Boston Elevated Railway Company formerly operated between Winter Hill in Somerville, and Franklin street,

Boston, via the lower level of Sullivan square station, Main street in Charlestown and Washington street. In his special report to this Commission on the finances and operating methods of the Boston Elevated Railway Company, made early in the year, Mr. John A. Beeler proposed certain changes to secure the operation of surface cars on a 2½-minute headway from Sullivan square to Winter Hill and the discontinuance of this line.

Since the hearing upon this petition and pending consideration of the subject matter thereof by the Commission, exclusive control over rates and service of the Boston Elevated Railway Company has been vested in a board of trustees under a recent act of the Legislature (Special Acts of 1918, chapter 159). No action upon this matter can therefore be properly taken by the Commission, and the petition is dismissed.

For the Commission,

ALLAN BROOKS,

AUGUST 22, 1918. [P. S. C. 1961]

Assistant Secretary.

Petition of the Connecticut Valley and the Northampton street railway companies to be relieved from maintaining waiting-room accommodations in the city of Northampton.

In July, 1914, the board of aldermen of the city of Northampton petitioned this Commission asking that the Connecticut Valley and the Northampton street railway companies be required to provide waiting-room accommodations in that city. After a public hearing and a conference between the Commission and representatives of the interested parties, an arrangement was entered into between the city and the two street railway companies whereby the companies were each to contribute thirty dollars a month toward the maintenance of a waiting room in the Connor Block, so-called. These arrangements continued until about a year and a half ago when, at the request of the city, the location of the waiting room was changed to the basement of the old Clark Library, and the amount paid by each company was reduced to twenty-five dollars a month. Formerly two rooms in this basement were used as a waiting room, one for men, the other for women. Some time ago the men's room was taken over by the War Exemption Board, leaving the room formerly assigned to women for the use of both. There is also on the same

floor of the building a public reading room in connection with the library. The companies contend that this waiting room is used almost exclusively by the general public rather than by patrons of their cars. In support of this contention they submitted counts for the period of five consecutive days between the hours of 8 A.M. and 9 P.M., which showed that out of 471 people using the rooms on this floor but five came from or went directly to the cars of the companies. It further developed at the hearing that most of the transferring of patrons between the two railways is done at the corner of King and Main streets, some distance from this waiting room, and that a drug store is located at this corner which may be used by patrons of the railways.

In view of the above, and the present necessity of the companies to conserve their revenues in order to provide the service which is most essential, the Commission will interpose no objection to the discontinuance of this waiting room by the companies.

For the Commission,

ANDREW A. HIGHLANDS,

NOVEMBER 13, 1918.

[P. S. C. 565]

Secretary.

Petition of the selectmen of Westminster for the establishment of through passenger service over the lines of the Northern Massachusetts street railway and the Fitchburg and Leominster street railway between Westminster and Fitchburg.

Memorandum.

In this case the Commission gave a public hearing and later a conference was held between representatives of the petitioners and street railway companies affected, and the Commission. At this conference an arrangement was suggested which would give the petitioners the through service they desired.

The arrangement provides for the running of certain cars of the Northern Massachusetts street railway through to Lunenburg, over the tracks of the Fitchburg and Leominster street railway and for running certain cars of the Fitchburg and Leominster street railway through to Fitchburg over the tracks of the Northern Massachusetts street railway, with the change of crews at Waite's Corner, or if either car is late, at the next

meeting place. This was later agreed to by the companies and it is now in effect.

No further action is necessary by the Commission, and the petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 21, 1918.

[P. S. C. 1991]

Secretary.

Petition of Representative M. F. Malone (of Worcester) relative to service and re-routing of car lines on the Worcester Consolidated street railway in Worcester.

Memorandum.

Case filed at the request of the petitioner, subject to its being brought up again at any future time.

For the Commission,

ANDREW A. HIGHLANDS,

APRIL 9, 1918.

[P. S. C. 1643]

Secretary.

Petition of Lewis C. Parker (of Westfield) relative to inadequate service on the Springfield street railway in the town of Westfield.

Memorandum.

The Springfield Street Railway Company operates a line of cars in the town of Westfield between Mill and Union streets by way of Park square. The service on this line was formerly run on a twenty-minute headway, but on October 21, 1918, the company changed it to a thirty-minute headway. The petitioner at the hearing did not object to the change at this time in view of the financial necessities of the company, but desired an opportunity, when conditions on the system became more normal, to renew his petition if conditions then warrant it. He also complained of the poor connections made by this line with other lines of the company at Park square, and it was agreed that he would take this matter up with the officials of the street railway company and a representative of the Inspection Depart-

ment of this Commission with a view to seeing if any better connections could be made at Park square without serious detriment to other lines. It was further agreed that this petition should be filed without prejudice.

For the Commission,

DECEMBER 23, 1918. - ANDREW A. HIGHLANDS,
[P. S. C. 2313] Secretary.

STREET RAILWAY TRANSFERS.

Petition of selectmen of East Bridgewater relative to transfer points on the Bay State street railway in East Bridgewater.

The petitioners in this case asked to have the then five-cent ticket limit in Brockton extended from the Brockton-West Bridgewater town line to Richards' corner, a distance of about half a mile, and to have the company issue a transfer or stop-over check, permitting passengers using Brockton-East Bridgewater cars which terminate at East Bridgewater, to continue their journey on through cars to the end of the fare zone in Bridgewater without an additional charge.

Soon after the hearing upon this petition, the company filed a new schedule rearranging its fares and fare zones throughout its whole system. Under this schedule the city zones were materially reduced in area and the fares increased. The suburban and interurban lines were placed substantially upon a mileage basis. The Commission, after hearings and conferences between the officials of the company and representatives of the various cities and towns affected, issued an order under date of June 11, 1918, allowing this new system to go into effect. Under that order, so much of the petition as relates to the old city ticket fare zone from the Brockton-West Bridgewater line to Griffin's corner was disposed of, and that part of the line between the present outer city zone and Bridgewater is now on a mileage basis. The Commission believes the request made by the petitioner to be inconsistent with the system of fares now in effect, and the petition is therefore dismissed.

Attest: ANDREW A. HIGHLANDS,
AUGUST 5, 1918. [P. S. C. 1916] Secretary.

Petition of George F. A. McDougall et al. relative to the institution of transfer privileges on the Boston Elevated railway at the South station for cars to and from Dorchester and South Boston via Dorchester avenue in the city of Boston.

Petition of Herbert E. Fleischner relative to transfer privileges on the Boston Elevated railway at Commonwealth and Harvard avenues in the Brighton district of the city of Boston.

Petition of Tarrant P. King and other patrons of the Boston Elevated Railway Company relative to transfer privileges at Dewey square in the city of Boston.

Petition of the Boston Elevated Railway Company for approval of changes in free transfer privileges in connection with opening of South Station Under of the Dorchester tunnel in Boston.

Petition of the Boston Elevated Railway Company for approval of withdrawal of certain transfer privileges at Dewey square and at the junction of Dorchester avenue and Summer street in the city of Boston.

Complaint of E. K. Boynton concerning transfers on the Boston Elevated railway on cars from Brookline village to Commonwealth avenue.

Memorandum.

These petitions, which were separately filed and heard, all relate to proposed changes in the existing system of free transfer privileges on the Boston Elevated railway. The company requested the withdrawal of certain transfer privileges, and the other petitioners requested the installation of additional transfer privileges at the same or other points. As the decision of these cases would involve an extended consideration of the whole free transfer situation of the Boston Elevated Company and a declaration of policy by the Commission in relation thereto, and as any action taken by the Commission would be largely influenced by the financial condition of the company, the Commission deemed it wise to allow the matter to remain in statu quo, and to defer final disposition of these cases until such time as the legislature should have an opportunity of determining what legislation, if any, it desired to enact for the financial relief of the company.

Under the act recently passed (Special Acts of 1918, chapter 159) exclusive control over the rates and service of the Boston Elevated Railway Company has been vested in a board of public trustees, who will doubtless make a careful study of the whole

problem of free transfer privileges on the Boston Elevated system, and take such action in relation thereto as the public interest may require. The petitions are therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

Secretary.

AUGUST 14, 1918. [P. S. C. 1161, 1396, 1438, 1499, 1545; P. S. C. Com. 683]

EXPRESS SERVICE.

Petition of the selectmen and others of Northborough relative to the discontinuance of delivery of express in Northborough.

Memorandum.

In this case a hearing was held and it was arranged that if the selectmen could obtain some one to deliver the express at the price per package formerly paid by the company, that the company would be willing to continue the delivery. In a letter received from W. A. Brigham, clerk of the selectmen of Northborough, under date of August 29, 1918, it appears that express is being delivered in Northborough within the regular express limits. As no further action is necessary, the petition is placed upon file.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 6, 1918. [P. S. C. 1920] *Secretary.*

TELEGRAPH RATES.

Petition of the Western Union Telegraph Company relative to telegraph rates charged by the Martha's Vineyard Telegraph Company between Woods Hole and the islands of Martha's Vineyard and Nantucket.

Memorandum.

This was a petition, brought by the Western Union Telegraph Company, asking that the Commission investigate "in order to determine what would be fair and reasonable rates on through

messages for the transmission between Woods Hole and the islands of Martha's Vineyard and Nantucket respectively; and that such order be made in the premises respecting such rates as may be just and reasonable, said rates to apply to messages originating at and destined to points within the state of Massachusetts." The business in question is controlled by the Martha's Vineyard Telegraph Company, which owns cables connecting the islands with the mainland, and telegraph lines on the islands. One-half the stock of this company is owned by the Western Union Telegraph Company and the other half by the Postal Telegraph-Cable Company, and through business is divided between them at Woods Hole in accordance with the terms of a written agreement.

At the public hearing upon this petition, the unusual spectacle was presented of the owner of a half interest in a company asking the Commission to order reductions in rates which the company itself did not seek, and to which the owner of the other half interest was emphatically opposed. Although due notice was given, no patrons of the company appeared at the hearing, either to favor or oppose the proposed reduction. Owing to the continually rising costs and uncertain business conditions caused by the war, doubt as to the effect of new telephone cable connections with the islands, still greater doubt as to the underlying purpose of the petition, and the fact that only a minor portion of the business is intrastate, the Commission has allowed this case to remain pending without decision. Recently, however, all telegraph properties have been taken over by the federal government and are under the direction of the Postmaster General. In view of this fact, the petition is now placed on file, with the understanding that, if it is approved by the federal authorities, it may be renewed again without prejudice.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 29, 1918.

[P. S. C. 1424]

Secretary.

TELEPHONE SERVICE.

In the matter of applications for telephone service where there are no available facilities to furnish such service.

Memorandum.

A number of cases have come to the attention of the Telephone and Telegraph Department of the Commission of applicants for telephone service being unable to secure the same owing to the lack of spare facilities available for use in the particular sections in which such service is desired. In cases where the reports of the inspectors of the Telephone Department of the Commission confirmed the report of the telephone company, the Commission, on the recommendation of the Chief of its Telephone Department, has suggested to the company that it notify the nearest special line or two-party line subscriber that it will be necessary to add other subscribers to the line in order to accommodate parties applying for service.

The telephone companies have construed the declaration of the government concerning new construction as prohibiting any extension during the period of the war except on emergency orders, and the Commission has endeavored to co-operate with the telephone companies along this line. The suggestion of the Commission that companies add other subscribers to any special or two-party line, where service cannot be furnished without building new plant, with a corresponding change of rate, has been accepted by the New England Telephone and Telegraph Company, and all such cases will be referred to the Telephone Department of the Commission.

For the Commission,

ANDREW A. HIGHLANDS,

JUNE 5, 1918. [P. S. C. 2154]

Secretary.

BRIDGES — RAILROAD AND RAILWAY.

Petition of the City Council of the city of Boston relative to the alteration of bridge at the crossing of Beech street, now Belgrade avenue, and the New York, New Haven and Hartford railroad in the West Roxbury district of the city of Boston.

It appearing, after public notice and hearing all parties interested, that Beech street, now Belgrade avenue, in the West Roxbury district of the city of Boston, is a public way which crosses the tracks of the New York, New Haven and Hartford railroad by an overhead bridge, and that it is necessary for the security and convenience of the public that an alteration be made in said bridge, which does not involve the abolition of a crossing at grade, for the purpose of rebuilding the bridge and making certain structural changes for the purpose of widening, strengthening and improving it, — it is

Ordered, That the said bridge passing over Beech street, now Belgrade avenue, in the city of Boston, be altered and rebuilt in the manner and within the limits hereinafter described: —

1. The present superstructure, consisting of wooden and iron stringers, resting on masonry abutments and supporting a wooden floor system, shall be entirely removed.

2. The present abutments shall be rebuilt and relocated with a clearance between them of not less than 31 feet.

3. A new superstructure shall be constructed consisting of steel beams encased in concrete. A space shall be left under each sidewalk for the placing of pipes and conduits. A clear height of 18 feet shall be established from the top of the rails of the railroad to the under side of the bridge.

4. The clear roadway between curb lines of the bridge shall be 40 feet paved with granite blocks. There shall be two sidewalks, each with a clear width of not less than 9½ feet, paved with artificial stone. Suitable railings shall be placed on the outside of the sidewalks.

5. Approaches to the bridge shall be raised and reconstructed to correspond with the new grade of the bridge surface.

6. Provision shall be made for the laying of two car tracks upon the bridge.

7. The work is to be executed substantially in accordance with a plan marked "Belgrade Avenue Bridge, E. F. Murphy, Commissioner of Public Works," dated Nov. 8, 1917, which is signed by, and filed with the records of, this Commission and made a part of this decision.

8. The bridge shall be designed in accordance with the specifications for bridges carrying electric railways adopted by the Massachusetts Public Service Commission, revised March, 1915.

FREDERICK J. MACLEOD,
JOHN F. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

MAY 16, 1918.

[P. S. C. 1960]

Commissioners.

Petition of the City Council of Boston relative to the alteration of the Norfolk street bridge, passing over the tracks of the New York, New Haven and Hartford Railroad Company in the Dorchester district of the city of Boston.

It appearing, after public notice and hearing all parties interested, that Norfolk street in the city of Boston is a public way which crosses the tracks of the New York, New Haven and Hartford railroad by an overhead bridge, and that it is necessary for the security and convenience of the public that an alteration be made in said bridge which does not involve the abolition of a crossing at grade, for the purpose of altering the bridge and making certain structural changes for the purpose of widening and improving it, — it is

Ordered, That the said bridge, passing over said tracks at Norfolk street in the Dorchester district of the city of Boston, be altered and rebuilt in the manner and within the limits hereinafter described: —

1. The present superstructure, consisting of three through trusses resting on masonry abutments and supporting the floor system, is to be moved northeasterly approximately 13 feet along the abutments.

2. The easterly abutment is to remain substantially unchanged except so far as is necessary to adapt it to the new location of the superstructure. The parapet on the easterly approach shall remain substantially unchanged except for such slight changes as are necessary to adapt it to the altered grade of the street. The westerly abutment shall be lengthened on the northerly end to receive the truss in its new location and a retaining wall shall be built from the abutment in a southwesterly direction to retain the fill. The remainder of the abutment shall be sub-

stantially unchanged except for slight changes in placing stones to receive the shoes of the trusses.

3. The clear distance between abutments shall not be diminished.

4. The existing brackets outside of the outer trusses of the superstructure shall be lengthened out to provide a sidewalk on each side of the bridge outside of the outer trusses with a clear width of approximately 5 feet 9 inches.

5. The existing wooden floor shall be entirely removed and rebuilt providing two roadways each 19 feet 3 inches between curbs.

6. There shall be places provided for pipes and conduits underneath the sidewalks.

7. The present clear height of about 16 feet 3½ inches from the top of the rails to the under side of the bridge is not to be diminished.

8. The grades of the roadways and sidewalks on the approaches are to remain substantially unchanged.

9. The work is to be executed substantially in accordance with plan marked "City of Boston, Public Works Department, Bridge and Ferry Division, Norfolk Street Bridge (North), over New York, New Haven and Hartford Railroad, Midland Division, Proposed Reconstruction," dated July 19, 1918, and signed by T. F. Sullivan, Commissioner of Public Works, which is signed by, and filed with the records of, this Commission and is made a part of this decision.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

AUGUST 7, 1918. [P. S. C. 2150]

Commissioners.

Petition of the Directors of the Boston and Maine Railroad relative to the maintenance and repair of bridge at Grattan street in the city of Chicopee.

This petition is brought under chapter 552 of the Acts of 1908, which provides, in part, that whenever, in the opinion of the directors of a corporation owning or operating a railroad, a bridge at the crossing of a public way and such railroad is in need of maintenance or repair, they may apply to the Board of Railroad Commissioners, now the Public Service Commission, "who shall, after public notice, hear all persons interested, and, if they decide that the work of maintenance or repair is necessary, shall prescribe the manner in and the limits within which it shall be done, and shall forthwith certify their decision to the parties."

In this case a highway known as Grattan street, in the city of Chicopee, crosses the tracks of the Connecticut River Rail-

road (Boston and Maine Railroad, lessee) by an overhead bridge. The Holyoke Street Railway Company also has a location and tracks upon said bridge.

The petitioners allege that this bridge is and has been for some time in need of maintenance and repair, and that it is a menace to the traveling public, not only upon the highway but upon the railroad. They ask that the Commission decide that the work of maintenance and repair is necessary and prescribe the manner in and the limits within which it shall be done.

Since the hearing, however, the street railway company has strengthened the part of the structure which carries its tracks, including a temporary support between the tracks of the railroad, and the city has taken similar action, so that the bridge, in the opinion of our engineer, is safe. The railroad company is not willing to allow the temporary support to remain indefinitely upon the right of way in its present position, but does not wish to take steps to compel the city to renew the superstructure under present conditions. Under these circumstances, the Commission will place the case on file, with the understanding that, when conditions become more normal, if steps are not taken to strengthen the structure without the encroachment in the space between the tracks, the Commission, upon request of the railroad company, will make a finding, prescribing the manner in and the limits within which the work of repair or maintenance shall be done.

For the Commission,

ALLAN BROOKS,

AUGUST 22, 1918.

[P. S. C. 1768]

Assistant Secretary.

Application of the Bay State Street Railway Company relative to restrictions for operation of cars upon Slade's Ferry bridge over Taunton Great River in Fall River and Somerset.

After consideration, —

It is

Ordered, That orders of the Commission dated September 22, 1915 (P. S. C. 1097), and October 9, 1916 (P. S. C. 1532), relative to approval of plan for strengthening Slade's Ferry bridge in Fall River and Somerset, and approval of regulations for operation of cars upon said bridge, respectively, be modified by substituting for the restrictions and modifications thereof contained in said orders, the following: —

(1) The tracks upon said Slade's Ferry bridge shall be divided into three spaces or blocks, — the westerly, that between the shore and the easterly end of the draw span; the middle, that between the latter point and the end of the second span easterly thereof; and the easterly, that from the latter point to the Fall River end of the bridge, these spaces or blocks to be indicated by suitable signs attached to the bridge structure, and that regulations shall be issued providing that but one passenger car, or one freight motor car with trailer, is at any one time to be within either of the spaces or blocks, and that no car shall enter a space or block until any preceding car has passed out of it.

(2) The speed of express cars is not to exceed four miles per hour.

(3) Express cars are not to be allowed on the bridge at the same time with the New York, New Haven and Hartford Railroad Company's steam locomotive and freight cars.

(4) Proper steps shall be taken to see that no express car enters upon the draw span at the time when an auto truck weighing more than $13\frac{1}{2}$ tons is upon said span.

Attest: ANDREW A. HIGHLANDS,
NOVEMBER 23, 1918. [P. S. C. 1532] *Secretary.*

CAPITAL STOCK AND BONDS.

Petition of the Boston, Quincy and Fall River Bicycle Railway Company for approval of issue of capital stock.

The Boston, Quincy and Fall River Bicycle Railway Company was incorporated by chapter 527 of the Acts of 1897, and its charter has been revived by chapter 150 of the Acts of 1900, chapter 111 of the Acts of 1901, chapter 556 of the Acts of 1907, chapter 707 of the Acts of 1912, chapter 279 of the Acts of 1915, and chapter 153 of the Special Acts of 1918.

On this petition a hearing was given, which was continued to a date to be fixed, and the matter has since been the subject of careful inquiry and consideration. Many months ago a verbal request was made that the petitioner submit for examination by the Commission the original records showing the organization of the company. The petitioner was also requested to submit for examination the patents under which it was proposed to build the Boston, Quincy and Fall River bicycle railway. There has been no compliance with either request.

In response to inquiries of the Commission, the Commissioner of Corporations has certified that the Boston, Quincy and Fall River Bicycle Railway Company has never filed any certificate of any kind relating to its organization in his office, and the Secretary of the Commonwealth has certified that he fails to find, upon a careful search in the records of his office, that said corporation has filed the certificate required by section 12 of chapter 109 of the Revised Laws (now section 12 of chapter 437 of the Acts of 1903) pertaining to the formal organization thereof.

It therefore appearing that the petitioner has failed to complete its organization and would consequently be disqualified from proceeding to issue capital stock at this time, were there favorable action on its petition, and in view of its failure to furnish evidence in the case as requested, it is hereby

Ordered, That the petition be dismissed without prejudice.

For the Commission,

ANDREW A. HIGHLANDS,

NOVEMBER 22, 1918.

[P. S. C. 1413]

Secretary.

Petition of the Boston and Providence Railroad Corporation for approval of an issue of debenture bonds.

This is a petition of the Boston and Providence Railroad Corporation for approval of an issue of debenture bonds to an amount not exceeding two million one hundred seventy thousand dollars (\$2,170,000), payable five (5) years from the date thereof and to bear interest at a rate not exceeding seven per cent (7%) per annum, the proceeds to be used for the purpose of providing payment for a like amount of bonds of the petitioner which become due July 1, 1918.

It appearing, after notice and hearing and further investigation, that the proposed issue of debenture bonds is for a lawful purpose and is consistent with the public interest, —

It is

Ordered, That the approval of the Commission be hereby given to the issue by the Boston and Providence Railroad Corporation of debenture bonds to an amount not exceeding at par value two million one hundred seventy thousand dollars (\$2,170,000), said bonds to be payable not exceeding five (5) years from date thereof and to bear interest at a rate not exceeding seven per cent (7%) per annum, as an issue of bonds reasonably necessary and of an amount required for the purpose of refunding outstanding bonds of the said Boston and Providence Railroad Corporation to the amount of two million one hundred and seventy thousand dollars (\$2,170,000), which become due July 1, 1918.

Any excess in the proceeds of this issue of bonds over the amount above named, which may be realized from premiums, shall be held for such application to the cost of permanent additions to and improvements upon the property of the petitioner as the Commission shall hereafter approve.

Attest: ANDREW A. HIGHLANDS,
MARCH 12, 1918. [P. S. C. 2063] *Secretary.*

Petition of the Boston and Worcester Street Railway Company for approval of extension for a term of three years of the maturity of an issue of certain first mortgage bonds of the Framingham, Southborough and Marlborough Street Railway Company at an increased rate of interest.

On December 12, 1898, the Board of Railroad Commissioners approved, for necessary and lawful purposes, and as reasonably

requisite therefor, an issue by the Framingham, Southborough and Marlborough Street Railway Company of coupon or registered bonds, to an amount not to exceed \$60,000, par value, payable at periods not to exceed 20 years from the date thereof, bearing interest at the rate of 5% per annum, and secured by a mortgage of the railway, equipment, franchises and other property, real and personal, of the said company. The said bonds to the aggregate principal amount of \$60,000 have been issued accordingly and are now outstanding and will mature January 1, 1919.

On February 1, 1904, the Board of Railroad Commissioners approved the terms of a contract of purchase and sale under which the property and franchises of the Framingham, Southborough and Marlborough Street Railway Company were conveyed to the Boston and Worcester Street Railway Company, under and by which the latter company assumed and agreed to pay all the outstanding debts and obligations of the Framingham, Southborough and Marlborough Street Railway Company, including the bonds above described.

It now appearing that owing to existing financial conditions, it is inexpedient, if not impossible, for the petitioner to issue and market new bonds or other securities at a reasonable rate of interest for the purpose of retiring or refunding said bonds, and that it is necessary and advisable for the petitioner to extend the maturity and to increase the rate of interest upon said bonds as extended in order to secure the consent of the holders of the bonds to such extension, —

It is

Ordered, That the approval of the Commission be hereby given to the extension of the maturity of the issue of bonds of the Framingham, Southborough and Marlborough Street Railway Company, amounting to sixty thousand dollars (\$60,000), assumed by the Boston and Worcester Street Railway Company and specified in the above-named orders of the Board of Railroad Commissioners, for a period not exceeding three years from January 1, 1919; and to the increase in the rate of interest upon the same to an amount not exceeding seven per cent (7%) per annum, subject to the terms and conditions of the proposed supplemental mortgage indenture to be made between the Boston and Worcester Street Railway Company and the American Trust Company, as trustee, a copy of which is on file with this Commission; and the orders of the Board of Railroad Com-

missioners hereinbefore specified, made under dates of December 12, 1898, and February 1, 1904, are hereby supplemented and amended accordingly.

Attest: ANDREW A. HIGHLANDS,
Secretary.

DECEMBER 30, 1918. [P. S. C. 2340, R.R. C. 1878, 5413]

Petition of the Massachusetts Northeastern Street Railway Company for approval of an issue of bonds.

This is a petition from the Massachusetts Northeastern Street Railway Company for approval of an issue of first and refunding mortgage five per cent gold bonds, to be dated July 1, 1914, for the purpose of funding its floating indebtedness, providing means for the construction and equipment of its property and for the purchase of such real and personal estate as may be necessary or convenient for the operation of its railway.

The schedule presented by the company shows that fifty thousand five hundred eight dollars and thirty-nine cents (\$50,508.39) has already been expended and that one hundred twenty-nine thousand five hundred forty-four dollars and sixty cents (\$129,544.60) is to be expended, making a total amount of one hundred eighty thousand fifty-two dollars and ninety-nine cents (\$180,052.99).

It appearing, after notice and hearing and full investigation by the engineering and accounting departments of the Commission that the schedule shows additions and betterments in the property of the petitioner to the amount of one hundred sixty-five thousand eight hundred thirty-nine dollars and fifty-six cents (\$165,839.56) from which the amount of sixty-four thousand nine hundred twenty-eight dollars and seventy-three cents (\$64,928.73), on account of fire at the Merrimac car barn, is to be deducted, leaving the amount of one hundred thousand nine hundred sixty-six dollars and eighty-three cents (\$100,966.83) for which no capital stock or bonds have been issued, and that the proposed issue of bonds is for a lawful purpose and of an amount reasonably necessary for such purpose, —

It is

Ordered, That the approval of the Commission be hereby given to the issue by the Massachusetts Northeastern Street Railway Company of first and refunding mortgage five per cent (5%) gold bonds to an amount not exceeding at par value one

hundred thousand dollars (\$100,000), payable twenty (20) years from the date thereof and bearing interest at the rate of five per cent (5%) per annum, as an issue of bonds reasonably necessary and of the amount required for the following purposes:—

1. The proceeds of bonds amounting at par value to thirty-six thousand dollars (\$36,000) shall be applied exclusively toward the payment of floating indebtedness properly incurred for the construction and equipment of the railway, as described in the schedule on file with the petition.

2. The proceeds of bonds amounting at par value to sixty-four thousand dollars (\$64,000) shall be applied exclusively toward the payment of the necessary cost to be incurred for the construction of a car barn and the purchase of equipment.

It is

Further ordered, That all contracts covering the purchase of equipment or of material or machinery to be used in connection with such equipment or any of the construction items heretofore mentioned, or the installation thereof, shall be filed with the accountant of the Commission as soon as executed; also that the company shall keep true and accurate accounts showing the receipt and application by it of the proceeds of the sale or disposition of all bonds authorized to be issued hereby, and report in writing to the Commission on or before the twentieth day of each month its receipts and disbursements during the previous month of the proceeds of said bonds, said report to be made as directed by the accountant of the Commission.

Any excess in the proceeds of these bonds which may be realized from premiums shall be held for such application to cost of permanent additions to and improvements upon the property of the petitioner as the Commission shall hereafter approve.

Attest: ANDREW A. HIGHLANDS,
DECEMBER 12, 1916. [P. S. C. 1497] *Secretary.*

Petition of the New York, New Haven and Hartford Railroad Company for approval of an issue of 450,000 shares of preferred stock.

This is a petition of the New York, New Haven and Hartford Railroad Company for approval of an issue, at par, of preferred stock having a total par value of \$45,000,000, the proceeds to be used to pay floating indebtedness covered by the promissory

notes of the company, secured by the deposit of collateral and maturing April 15, 1918. The petition contains the following statement:—

Most of said indebtedness is included in the obligations which your petitioner is authorized to fund or refund by the issue of stock or of other securities, by virtue of the provisions of Special Acts of Massachusetts of 1915, chapter 383, section 1, or of the Special Acts of Massachusetts of 1917, chapter 309, section 2. The remainder of said indebtedness was incurred for money which has been expended upon the property of your petitioner for purposes for which it may lawfully issue stock or other obligations, as is shown more in detail in schedule presented herewith.

Section 1 of chapter 383 of the Special Acts of 1915 authorized the New York, New Haven and Hartford Railroad Company "to issue shares of capital stock, bonds, notes or other evidences of indebtedness, subject to the provisions of all general laws relative to such issues, for the purpose of funding or refunding any or all bonds, notes and other evidences of indebtedness issued under the authority of any state in which said company is incorporated and which were outstanding on May fifteenth, nineteen hundred and fifteen, and of which said company is the maker or which it has assumed in the same manner as if such indebtedness had been properly incurred for purposes lawful under the statutes of this commonwealth." This statute was passed after this Commission had reported to the General Court that it would probably be found, upon a thorough investigation of the capital receipts and expenditures of the company since the date of the validation of its capitalization by Massachusetts in 1910, "that all or some portion of the capital stock now outstanding has been issued and all or some part of the floating debt has been incurred, not only without technical authority from this commonwealth, but for purposes inconsistent with our fundamental railroad policy," and after the Commission had made the following recommendation:—

. . . In our opinion, however, a long and tedious attempt to apply the strict policy of the capitalization laws of Massachusetts to this incongruous situation would serve no useful purpose. We believe the simplest and quickest adjustment of the situation is the best, and we therefore recommend that the general court validate the stock of the New York, New Haven and Hartford Railroad Company outstanding on June 30, 1914, and that it likewise authorize the funding of all the floating debt outstanding on that date lawfully incurred under the laws of any state

in which the company is incorporated, provided it is made clear that neither this action nor any approval of securities by this Commission based upon it carries with it any determination, express or implied, that the investment represented by such debt was honestly and prudently made in accordance with the railroad laws of Massachusetts.

In accordance with this recommendation, section 1 of chapter 383 of the Special Acts of 1915 contained the following safeguarding provision:—

. . . Nothing herein shall be construed as in any way estopping the commonwealth from determining whether and to what extent the capital expenditures made or obligations, direct or indirect, incurred by said company have been properly made and incurred for lawful purposes, in so far as such determination may be necessary or proper in fixing the basis for the just and reasonable rates, fares and charges of said company, or may be pertinent in any other proceeding, or as affecting the legal status of any investments by said company in the stock, shares, bonds, notes or other evidences of indebtedness of any other corporation, association or person.

The floating indebtedness of the New York, New Haven and Hartford Railroad Company so validated amounted on May 15, 1915, to \$30,314,000.

By section 2 of chapter 309 of the Special Acts of 1917 the New York, New Haven and Hartford Railroad Company was also authorized, upon certain conditions, to take over the assets and assume the liabilities, other than stock and notes in its own treasury, of the New England Navigation Company, and thereupon to cause this company to be dissolved and its capital stock and the aforesaid notes to be cancelled. Steps to this effect have been taken. The formal dissolution of the company has not yet been accomplished, but assets have been taken over and assumed in accordance with the terms of the statute. In the course of this transaction the railroad company, in effect, assumed and paid off floating indebtedness of the New England Navigation Company amounting to \$18,338,000.

The total of the floating indebtedness validated in 1915 and lawfully assumed in 1917 in connection with the New England Navigation Company dissolution was, therefore, \$48,652,000. Upon the date of the petition, however, the notes and bills payable of the company outstanding in the hands of the public amounted to \$44,220,000. Since 1915, notes have been paid off or renewed from time to time, and the amount now outstanding

in effect represents the balance of the debt validated or lawfully assumed which has not been paid off, plus additional debt incurred for additions and improvements to the property of the company. It is the company's claim that the old debt which has not been paid and the cost of the additions and improvements made since 1915 amount, all told, to more than the \$45,000,000 which it now seeks to capitalize through an issue of preferred stock.

It is the duty of the Commission to determine the amount of capital "reasonably necessary" for lawful purposes, — in this case, the extent to which the floating indebtedness may lawfully and properly be funded by the issues of permanent securities. To do this it is necessary to classify the outstanding notes. So far as they may be regarded as representing debt validated in 1915 or assumed, as aforesaid, in 1917, there is no need of further investigation, for their status has been determined by statute. So far, however, as they are to be regarded as representing additions and improvements, the usual investigation is necessary of the character and cost of the work done and property acquired. Since May 15, 1915, the company has issued no stock or bonds, and has, therefore, had no funds available from this source for the payment of floating debt. It has, however, derived funds which could be so used from the conversion of assets — principally securities of other companies — into cash. Investigation shows that the amount which has been obtained in this way, after deducting necessary advances to subsidiary companies, has been \$6,562,795.26. In this amount no receipts have been included, such as receipts from the sale of scrap or certain real estate, which have been entered on the books as credits to the road and equipment account. Under section 5 of chapter 383 of the Special Acts of 1915 the company is prohibited from expending such proceeds "except for purposes for which a railroad corporation may lawfully issue stock, bonds, notes or other evidences of indebtedness payable at periods of more than twelve months after the date thereof, and only to such an extent" as this Commission may approve, unless they are used to liquidate the indebtedness validated by the act, or for purposes for which a railroad corporation, under the general statutes, may issue stock or securities without the approval of the Commission. No approval of expenditures has been sought under this section and the company has, from time to time, reported that the cash received in this way has been used for the payment of indebtedness.

Deducting the funded debt which has been retired during the period in question, the net amount available for the payment of floating indebtedness has been \$6,532,795.26. Applying this amount to the total indebtedness of this character validated in 1915 and assumed in 1917, the balance remaining is \$42,119,204.74. The conclusion thus reached is that \$42,119,204.74 of the \$44,220,000 of notes now outstanding represents debt validated in 1915 or assumed in 1917, and that the remainder, \$2,100,795.26, represents expenditures on the property.

The company filed with its petition a schedule showing in detail additions and betterments to road and equipment in the period from June 1, 1915, to April 30, 1917. The total expenditures so shown amount to \$7,266,118.87, and the credits for property abandoned, real estate sold and equipment retired to \$1,823,710.26, making the net amount \$5,442,408.61. The engineering and accounting departments of the Commission have checked expenditures amounting to \$4,136,184 out of the total of \$7,266,118.87 and also the entire amount of credits, examining vouchers, contracts, unit costs and the property itself, and have approved \$2,312,474 as the net amount of expenditures so checked representing additions and improvements which may properly be capitalized. This corresponds very closely with the company's figures. The checking of the remaining expenditures, which were made up of many small items, would have taken so much additional time that it was not attempted, but the accountants and engineers are satisfied, from their inspection of the records and property, that the accounts have been well kept and the work carefully and economically done, and that the additional amount claimed by the company is in all probability correct. The amount actually checked, however, exceeds the amount of the debt which, as already shown, may be taken as representing additions and betterments to the property. Many of these additions and betterments are located outside of the commonwealth and the company might have issued securities to cover their cost without obtaining the approval of this Commission. As the petition, however, attempted no division on geographical lines, and our approval has been sought for the entire issue, the Commission deemed it advisable to authorize the investigation which the accounting and engineering departments have made.

The Commission therefore finds that the outstanding floating indebtedness, amounting to \$44,220,000, may lawfully and properly be capitalized by the issue of permanent securities. The ad-

ditions and improvements which have been made are sufficient in amount, indeed, to support an issue of the full par value of \$45,000,000 sought by the petitioner. This, however, for reasons which are given below, cannot be allowed.

It remains to determine whether securities of the character desired and subject to the terms and conditions specified may properly be approved. The petition is brought under the provisions of chapter 366 of the Special Acts of 1917, which reads as follows: —

SECTION 1. The New York, New Haven and Hartford Railroad Company is hereby authorized, for the purpose of paying its floating indebtedness, to issue, subject to the approval of the public service commission and to the provisions of chapter two hundred and ninety-nine of the General Acts of the year nineteen hundred and fifteen, shares of preferred stock, not exceeding four hundred and fifty thousand in number, of the par value of one hundred dollars each, upon which the company may pay dividends, from its net income, not exceeding seven per cent per annum.

SECTION 2. Said preferred stock may be issued under such provisions for future retirement or exchange for common stock as may be authorized by a vote of stockholders, holding not less than two thirds of the stock of the said company, and approved by the public service commission.

SECTION 3. This act shall take effect upon its passage.

The general statute relative to the creation and issue of preferred stock by railroad corporations is chapter 299 of the General Acts of 1915.

The issue of preferred stock for which approval is sought was authorized at a meeting of the stockholders of the company on October 24, 1917, by a vote of more than two-thirds in interest. There are outstanding 1,571,179 shares, and 1,202,332 shares voted for the issue and 6,565 against. The vote adopted was as follows: —

Voted, That, for the purpose of paying its floating indebtedness, this Company issue 450,000 shares of preferred stock of the par value of one hundred dollars (\$100) each, the holders of which shall be entitled to receive out of the annual net income of the Company or surplus accruing therefrom dividends of seven per centum per annum, payable semi-annually, and if the net income of any year together with such surplus shall not be sufficient to pay said dividends the same shall be cumulative and shall be paid out of the net income of any subsequent year, and any such surplus when available, without interest, and such preferred stock dividends shall be declared and set apart or paid in preference to and before any dividends are set apart or paid upon the common stock. In

case of liquidation or dissolution of the Company the preferred stock, together with all accumulated and unpaid dividends thereon, shall be paid in full out of the net assets available for distribution to stockholders at par before any payment is made to the holders of common stock. The holders of the preferred stock shall in all matters be entitled to one vote for each share of preferred stock owned by them. The said shares of preferred stock shall be first offered for subscription at such price as the directors shall fix, not less than par, proportionately to the holders of this Company's common stock and their assigns and to the holders of this Company's Six Per Cent. Convertible Debentures due January 15, 1948, convertible into stock between January 15, 1923, and January 15, 1948, then outstanding, and their assigns, upon the basis provided in said debentures, to wit, that each one hundred dollars (\$100) of the principal amount of said debentures shall be considered the equivalent of one share of common stock. Said shares of preferred stock, or any part thereof, shall be subject to call for redemption and retirement on any dividend date upon not less than thirty days prior written notice given by mail to each preferred stockholder and upon payment of \$110 per share and all accrued and unpaid dividends. If less than all the shares of preferred stock are called for redemption and retirement such proportion thereof held by each preferred stockholder shall be redeemed as the total amount of said stock called shall bear to the total amount of preferred stock then outstanding, but in determining such proportion all fractional shares shall be disregarded and the amount of each stockholder's preferred stock so to be redeemed shall be the number of whole shares to which his proportion entitles him. At least three-fourths of the cash proceeds received by this Company from any sale of securities pursuant to the decree of the United States Court entered October 17th, 1914, in the Dissolution Suit, as the same is now or may hereafter be modified shall be applied to the retirement of said shares in amounts of not less than 10,000 shares, either by call for redemption as aforesaid, or by purchase from the lowest bidder or bidders upon not less than thirty days prior written offer to purchase given by mail to each of the said preferred stockholders. The Directors of the Company are hereby authorized and directed for and in behalf of the Company to perform all acts and take all steps in their judgment necessary or proper to carry out the purposes of this vote, and they are hereby vested with full power and right to determine the time, manner and conditions of the issue, sale and retirement of said preferred stock.

At the hearing before the Commission on November 30, 1917, only one person appeared in opposition.

The present floating indebtedness of the company is represented by one-year notes and these are without question a source of expense and financial danger. Every year the necessity for renewing them arises, so that periodically the road is practically

at the mercy of the bankers. Interest and discount charges are high and there is always the fear that it may not be possible to effect a renewal and that a receivership may result. Extensive improvements of the property of the company are urgently needed, both in the public interest and in its own interest, in order that it may operate with greater efficiency and economy, but funds for such improvements can with difficulty be secured so long as the danger and threat of this floating indebtedness remain. It is clearly in the public interest that it should be permanently funded, either by an issue of bonds or by an issue of stock.

Under the statute of 1917 the Commission is given broad authority and doubtless it could refuse to approve the issue of preferred stock desired if it believed that the floating indebtedness could be funded to better public advantage by an issue of some other class of securities such as, for example, mortgage bonds. At the present time, however, the outstanding stock of the company, all of which is common stock, amounts to \$157,117,900, while the funded debt, apart from the \$44,200,000 of floating indebtedness, amounts to \$216,993,791. The company has placed its guarantee on securities of other companies having a total par value of \$81,561,900, and in the case of \$37,387,900 of this amount the contingent liability is an actual liability. In addition, it has fixed charges in the shape of rentals of leased lines with an aggregate capitalization outstanding in the hands of the public (eliminating securities held by the New Haven company) of \$40,429,500. It is evident that the fixed charges of the company are already very large in comparison with the equity of its stockholders. A similar situation has been one of the chief causes of the troubles of the Boston and Maine Railroad, and is the principal reason advanced for its contemplated reorganization.

If bonds should now be used to fund the floating debt it would practically be necessary for the company to issue stock in securing capital for needed improvements. On the other hand, if stock is now issued the opportunity will be open to issue either stock or bonds in the future, as the need develops. Upon consideration, it seems to the Commission that it is clearly desirable and in the public interest to use stock for the purpose of paying the debt, rather than any other form of security. Since common stock cannot be issued at par, it also follows that it is desirable to issue preferred stock.

If preferred stock is to be issued, however, the Commission under the provisions of chapter 299 of the General Acts of 1915,

must approve the preferences and rights and the restrictions and limitations fixed by the vote of the stockholders. In this connection, the matters which seem to the Commission to call for comment and consideration are as follows: —

(1) *The Right of the Holders to receive Cumulative Dividends of 7 Per Cent Per Annum.* — Compared with the cost of capital in the past to this company and other public service corporations in New England, this 7 per cent dividend on stock issued at par is exceedingly high. Under existing general conditions and in view of the financial circumstances of the company, however, there seems little prospect that the stock could be marketed upon better terms. The 7 per cent rate has been approved by a very large majority of the common stockholders, who have a more direct interest in this matter than any one else, and there is no evidence which would justify the Commission in refusing to endorse their decision.

The management, however, should bear in mind that the recent action of the President in taking possession of the railroads of the country under the war power has introduced a new factor into the situation. The bill (S. 3632) now before Congress "to provide for the operation of transportation systems while under Federal control, for the just compensation of their owners, and for other purposes," provided in section 7 "that for the purpose of providing funds requisite for maturing obligations or for other legal and proper expenditures, or for reorganizing railroads in receivership, carriers may, during the period of Federal control, issue such bonds, notes, equipment trust certificates, stock and other forms of securities, secured or unsecured by mortgage, as the President may approve as consistent with the public interest." It is further provided that the "President may purchase for the United States all or any part of such securities at prices not exceeding par." While the company probably cannot independently market an issue of preferred stock at the present time if the dividend rate is less than 7 per cent, it can do so if the government were the purchaser or gave its support to the issue in any other way, and the lower rate would be of advantage to all concerned.

Before issuing new stock in the manner contemplated, in the pending petition, therefore, the management would do well to canvass the situation thoroughly and give careful consideration to the possibility of financing upon better terms under the provisions of such legislation as Congress may enact.

(2) *The Right of Holders in All Matters to One Vote for Each Share of Preferred Stock owned.* — It has been urged that this voting power may tend to remove the company from the control of its present stockholders by concentrating power in the hands of large financial interests. In other words, the claim is that many of the smaller stockholders will be unable, under present conditions, to subscribe for their proportionate part of the preferred stock, and that the new shares will be taken, so far as they are taken at all, by the larger stockholders like the Pennsylvania Railroad Company. Whether or not this will happen is a matter of speculation, but even if it should prove to be the case it is doubtful whether the situation would be changed materially. The smaller stockholders of the company have never, it seems, exercised any large measure of control over its management, although for many years they have held a majority of the shares, and in any event the issue of preferred stock proposed amounts to but 28 per cent of the outstanding common stock. So long as control by the Federal government continues, the question is, of course, academic.

Chapter 299 of the General Acts of 1915 provides specifically (in section 3) that any preferred stock issued thereunder shall have the same voting power as the common stock, "except that in any case there may be such limitations" as the Commission may approve. The general policy of the law clearly favors the grant of voting power, and while the Commission can refuse to approve limitations which the common stockholders may seek to impose, it is at least doubtful whether it would have authority to require limitations where none are sought. Perhaps this authority might be exercised indirectly under the provisions of chapter 366 of the Special Acts of 1917 by refusing to approve the entire issue, but it is unnecessary to decide this question for, in the opinion of the Commission, there is no sufficient reason for such exercise, even if it be assumed that the authority exists. A restriction of the right of the holders of the preferred stock to vote upon its redemption and retirement would have been reasonable and proper, but under the plan adopted such retirement is left to the discretion of the directors. This is a matter, however, which chiefly concerns the common stockholders, and since the plan indicated has received the approval of a very large majority there is no public interest involved which would warrant the Commission in requiring an amendment in this respect.

(3) *The Right to call the Shares of Preferred Stock for Redemp-*

tion upon Payment of \$110 per Share and All Accrued and Unpaid Dividends. — Section 2 of chapter 366 of the Special Acts of 1917 specifically authorizes preferred stock to be issued “under such provisions for future retirement or exchange for common stock” as may be voted by the stockholders and approved by the Commission. The plan adopted makes it possible to call all or a part of the stock at any time, upon the terms above indicated, at the will of the directors. It further provides that at least three-fourths of the cash proceeds received by the company from any sale of securities pursuant to the decree of the United States court in the so-called “Dissolution Suit” shall be applied to the retirement of the preferred shares, either by calling for redemption upon the terms specified or by purchasing from the lowest bidders.

In view of the high dividend rate upon the proposed preferred stock, it is obviously desirable that there should be some provision for its future retirement in case financial conditions make it possible at any time to market securities upon better terms, or in case the company receives cash from the sale of assets which could be used for this purpose. It is true that, if stock issued at par should be called at \$110 per share within a comparatively short period of time, the profit of the holders would be large and such action might be inconsistent with the best interests of the company. The call price, however, merely fixes the maximum amount to be paid by the company in case it desires to retire the stock. If its market value should rise above 110, authority to retire it at that figure might be advantageous to the company. But if it could be purchased from the holders upon bids at a lower price, it is not reasonable to assume that the directors would disregard the company's interests by calling the stock at \$110 per share.

It is doubtful, however, whether under the provisions of section 5 of chapter 383 of the Special Acts of 1915, the proceeds from the sale of securities under the court decree could lawfully be used to pay any premium upon the stock retired over and above the issue price. On the other hand, the company believes that it might discourage investment in the stock if it were made callable at a lower price than 110. Upon consideration, it seems to the Commission that the situation may be met by providing that any cash proceeds from the sale of assets used in the retirement of the preferred shares shall be applicable only to the extent of \$100 per share, and that any new securities issued to

effect such retirement shall not exceed, in par value, the shares so retired, any necessary amount in excess to be provided in either case by the company from earnings or surplus. This provision will meet the legal difficulties to the use of capital for the purpose of paying a premium on stock retired, and will, at the same time, minimize any possible danger that the stock might be retired for purposes or upon terms inconsistent with the best interests of the company. Any preferred stock issued under the provisions of chapter 366 of the Special Acts of 1917 can only be used for the purpose of paying floating indebtedness. Inasmuch as the total of such indebtedness now outstanding is \$44,220,000 the Commission cannot approve an issue of preferred stock in excess of this amount. While the issue of the \$45,000,000 asked for in the petition cannot, therefore, be approved, the Commission will approve the issue of \$44,220,000 of preferred stock with the preferences and rights and subject to the restrictions and limitations fixed by the vote of the stockholders, modified as above suggested.

It is therefore

Ordered, That the approval of the Commission be hereby given to the issue by the New York, New Haven and Hartford Railroad Company, at the price not less than one hundred dollars (\$100) per share, of not exceeding four hundred forty-two thousand two hundred (442,200) preferred shares of capital stock, to be known as the preferred stock, amounting at par value to fourty-four million two hundred twenty thousand dollars (\$44,220,000), having the preferences, rights, restrictions and limitations and being entitled to the rate of preferred dividends which has been determined by vote of two-thirds in interest of the common stockholders at a meeting held October 24, 1917, with the following proviso: Any cash proceeds from the sale or conversion of assets, used in calling or purchasing such stock, shall be applicable only to the extent of one hundred dollars (\$100) for each share so retired, and any new stock or other securities issued for such purpose shall not exceed in par value the stock so retired, any amount in excess necessary for such retirement to be provided in either case by the company from earnings or the surplus account; and which preferences, rights, restrictions, limitations and rate of dividend are hereby approved, as set out in a copy of said vote on file in this office and in said proviso, as an issue of stock reasonably necessary and of the amount required for the purpose of paying the floating indebtedness of the company

outstanding on October 31, 1917, and validated or incurred as stated in the report of the Commission hereto attached and made a part hereof.

By the Commission,

CHARLES E. MANN,

FEBRUARY 9, 1918.

[P. S. C. 1965]

Executive Secretary.

*Petition of the Plymouth and Sandwich Street Railway Company
for approval of issue of preferred stock.*

Memorandum.

This petition was filed by the former management of the company. Since the hearing the road has ceased operation and, we are informed, may be sold. Action by the Commission appears to be unnecessary, therefore, and the petition is placed upon file.

For the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 6, 1918. [P. S. C. 985]

Secretary.

*Petition of the Union Street Railway Company for approval of an
issue of additional capital stock.*

This is a petition of the Union Street Railway Company of New Bedford for approval of an increase of the capital stock of the company by such an amount, not exceeding \$812,500, as the Commission shall determine has been properly expended or will be properly required "for the purposes of building extensions, acquiring land for pleasure resorts, building and equipping power house, building and equipping car houses and park buildings, acquiring and equipping additional rolling stock, paying betterment assessments for widening highways, and for making permanent investments or improvements, and acquiring additional real and personal property necessary or convenient for the corporate objects of the company, and for the payment of money borrowed and indebtedness incurred for the foregoing purposes." In authorizing this proposed issue, the stockholders voted that the new shares should be offered proportionately to the stockholders "at the par value thereof, to wit, \$100 per share."

Since 1909 the capital stock of the company has not been increased, except in connection with the consolidation with the Dartmouth and Westport Street Railway Company, and the funded debt has been reduced from \$500,000 to \$250,000. The management states that in the same period of time more than \$1,500,000 has been added to the property, — largely from earnings. The investment of surplus in this way has offset a reduction in the book value of the property which was made after an appraisal in 1913.

The capitalization in stock, bonds and notes on March 31, 1918, was as follows: —

Capital stock,	\$1,625,000
Funded debt,	250,000
Notes payable,	582,500

The new issue of stock is desired to fund, in part, the floating debt and to provide means for the construction of a new power station. It seems that, in 1916, the directors reached the conclusion that the present plant was not only inadequate for the increasing demands for power but, owing to its obsolete form of equipment, uneconomical in operation. Contracts were, therefore, entered into for a new building equipped with modern turbine generators. These contracts were made and work was begun before this country entered the war. While the company, if it had foreseen present conditions, might not have undertaken this enterprise, once involved in it, the wisest course has seemed to be to carry the work to completion.

The new power house, with its equipment, is estimated to cost \$750,000. This estimate has been checked in detail by the engineering and accounting departments of the Commission and found to be reasonable. Some of the work has already been done, and an examination of the contracts and vouchers covering this portion further substantiated the estimate. The departments have also checked and approved the cost of a new car barn constructed since the last issue of securities, examining all contracts and vouchers and inspecting the property. The actual cost was \$232,289.35, but this amount was reduced by an arbitrary charge and the property now stands on the books at \$230,000.

The new car house, which is a very substantial brick and cement structure with company offices and a stock room on the second floor, replaced an old wooden car barn which was carried on the books at \$29,000 and has been charged off. In the case

of the new power station, it is the intention of the company, for the present, to continue the old station, in part, to provide reserve capacity for breakdowns or excess loads, and this plan seems to the engineers of the Commission to be reasonable. The boilers now in use will be abandoned and some of the electrical apparatus, but until the new station is completed and in running order it is difficult to determine precisely what portion of its equipment should be regarded as a replacement rather than a betterment of existing property. However, the combined costs of the new car barn and power house amount to \$980,000, which is \$167,500 in excess of the par value (\$812,500) of the issue of stock which is now desired, and in the opinion of the experts of the Commission this is ample margin to cover the book value of all property which has been or may be abandoned as a consequence of the construction of both structures.

As above indicated, the car barn is only one of a number of additions and improvements which have been made since the last issue of securities. In large part these have been financed out of earnings, but floating debt has been incurred to some extent. Borrowed money and surplus earnings have been used in combination to meet the necessary cash requirements. In checking up expenditures sufficient to justify the proposed issue of stock the car barn was selected in addition to the new power station, but other betterments or additions to the property might have been selected for the purpose. In the opinion of the Commission an issue of securities to realize the sum desired may properly be approved as reasonably necessary for lawful purposes.

Chapter 636 of the Acts of 1908 provides that the Commission "shall refuse to approve any particular issue of stock" if, in its opinion, "the price fixed by the stockholders is so low as to be inconsistent with the public interest." In *Bulkeley v. N. Y., N. H. and H. R.R.* (216 Mass. 432) the Supreme Court had the following to say in regard to the words "so low as to be inconsistent with the public interest": —

It is difficult to define the phrase last quoted. It is not now necessary to undertake to give a comprehensive statement of its signification, nor to determine the extent of the change wrought in the principles which should govern the determination of the Commission in giving its approval under the new statute compared with those under the old. At least it must be taken, as was said by the Railroad Commissioners in their Fortieth Annual Report, pp. 153-155, "to mean in any specific case an issue price materially lower than a price which would assure a ready market for the issue" (p. 438).

Most of the outstanding stock of the Union Street Railway Company has been issued at a premium, the amounts ranging from \$25 to \$50 per share and averaging a little less than \$34. Regular dividends of 8 per cent per annum have been paid for some considerable period of time, the funded debt is low, the company has made better provision for depreciation than any street railway company in the commonwealth, and its securities have commanded good market prices. It is now proposed to offer to the stockholders, at par, an issue of stock equal in amount to one-half of the stock outstanding.

A proposition to issue new stock of this company at par would have been regarded, not very long ago, as hardly open to serious consideration, but the situation has greatly changed in recent months. Under the abnormal conditions caused by the war the cost of money is very high and high-grade securities are selling at very low prices. Much evidence to this effect was introduced by the petitioner at the public hearing. In common with other street railway companies, the earnings of this company have been adversely affected by the rise in operating costs. During the three months ended March 31, 1918, it failed to earn the quarterly dividends of 2 per cent which were paid, and was obliged to draw, in part, upon surplus. It is also true that street railway securities at present are not popular with the investing public either in Massachusetts or elsewhere in the country. Under the circumstances the Commission cannot refuse to approve the issue upon the ground that the price of \$100 per share fixed by the stockholders is "materially lower than a price which would assure a ready market for the issue" or, in other words, that it is "so low as to be inconsistent with the public interest."

The question whether common stock, or preferred stock, or bonds, or some other form of security shall be issued by a company to provide the capital reasonably necessary for lawful purposes is left by the statutes to its discretion (see 4 P. S. C. Rep., p. 244).

ORDER.

It appearing that the proposed issue of capital stock is for a lawful purpose and is consistent with the public interest, —

It is

Ordered, That the approval of the Commission be hereby given to the issue by the Union Street Railway Company, at a price of one hundred dollars (\$100) per share as fixed by its stockholders, of additional shares of capital stock, not exceeding eight

thousand one hundred twenty-five (8,125) in number, amounting at par value to eight hundred twelve thousand five hundred dollars (\$812,500), as an issue of stock reasonably necessary and of the amount required for the purpose of meeting the cost of a new power station and equipment now in process of construction, and for the purpose of paying certain floating indebtedness already incurred in connection with such construction and in connection with the construction of a new car barn, as described in a report made to the Commission dated May 28, 1918, and signed by its chief accountant and engineer, and as set forth in a schedule therein referred to and on file in the record of the case.

It is

Further ordered, That all contracts covering the purchase of material or machinery to be used in connection with the construction of the new power station and equipment, heretofore mentioned, or the installation thereof, shall be filed with the accountant of the Commission, and that the company shall keep true and accurate accounts showing the receipt and application by it of the proceeds of the additional stock authorized to be issued hereby and report in writing to the Commission at the end of each period of three (3) months succeeding the issue of said stock, unless otherwise ordered, its receipts and disbursements during such period of said proceeds, said report to be made as directed by the accountant of the Commission.

By the Commission,

ANDREW A. HIGHLANDS,

JUNE 19, 1918.

[P. S. C. 2100]

Secretary.

Petition of the West End Street Railway Company for approval of an issue of bonds and for approval of application of proceeds of a former issue of bonds.

This is a petition from the West End Street Railway Company for approval of an issue of bonds to an aggregate amount of \$375,000, the proceeds to be used for repayment to the Boston Elevated Railway Company, under the terms of its lease to said company, toward the cost of 50 new cars and their equipment purchased for the petitioner, and for approval of the application of proceeds of a former issue of bonds toward the same purpose.

The schedule of additions to equipment, filed with the petition, shows expenditures to the aggregate amount of \$402,367.25, as follows: —

Car bodies,	\$217,744 75
Trucks,	25,279 79
Air brakes,	28,050 86
Motors,	80,453 69
Control equipment,	31,315 29
Motive power wiring,	19,522 87
	<hr/>
	\$402,367 25

This amount has been approved by the accounting and engineering departments of the Commission, after checking vouchers, unit costs and other details. The representatives of the Commission also find a balance of \$1,187.77 due to the Boston Elevated Railway Company from the West End Street Railway Company, under an account heretofore approved, making a total of \$403,549.02. From this should be deducted excess proceeds of an issue of \$1,581,000 in bonds authorized by an order of this Commission dated May 21, 1917, to the amount of \$2,213.40, leaving a balance due from the West End Street Railway Company for which bonds may be issued, to the amount of \$401,335.62.

It appearing, after notice and hearing and upon further investigation, that the proposed application of proceeds of former issues of bonds and the proposed issue of additional bonds are for lawful purposes and are consistent with the public interest, —

It is

Ordered, That the approval of the Commission be hereby given to the application by the West End Street Railway Company of two thousand two hundred thirteen dollars and forty cents (\$2,213.40), realized as a part of the proceeds of bonds issued under an order of the Commission dated May 21, 1917, and being the amount received by the company in excess of that required, as specified in said order, toward the cost of permanent additions to and improvements in the property of the petitioner, made by the Boston Elevated Railway Company in accordance with the terms of the lease between said companies and described in the schedule on file with the petition.

And it is further

Ordered, That the approval of the Commission be hereby given to the issue by the West End Street Railway Company of coupon or registered bonds to an amount not exceeding at par value

three hundred seventy-five thousand dollars (\$375,000), said bonds to be payable in not exceeding thirty (30) years from the date thereof and to bear interest at a rate not to exceed seven per cent (7%) per annum, as an issue of bonds reasonably necessary and of the amount required for the purpose of paying in part the necessary cost of permanent additions to and improvements in the property of the petitioner, made by the Boston Elevated Railway Company in accordance with the terms of the lease between said companies and described in the schedule on file with the petition.

Any excess in the proceeds of this issue of bonds, over the amount above named, which may be realized from premiums, shall be applied toward said cost of permanent additions to and improvements in the property of the petitioner, made by said Boston Elevated Railway Company in accordance with the terms of said lease as described in the schedule on file with the petition.

Attest: ANDREW A. HIGHLANDS,
JANUARY 22, 1918. [P. S. C. 2015] Secretary.

*Petition of the West End Street Railway Company for approval
of issue of bonds.*

This is a petition from the West End Street Railway Company representing that it desires to issue \$1,581,000, par value, of its negotiable bonds, as being reasonably requisite for the purpose of providing means for the payment of \$1,581,000 bonds of the West End Street Railway Company, due August 1, 1918.

It appears that under date of July 2, 1915, the Commission issued an order (P. S. C. 959), approving an issue by the West End Street Railway Company of four million seven hundred forty-three thousand dollars (\$4,743,000) of bonds, for the purpose of refunding a like amount which became due August 1, 1915. The company, however, deeming it inexpedient at that time to issue long-term bonds, issued bonds to the amount of \$4,743,000, bearing interest at the rate of 5% per annum, of which amount \$1,581,000 were payable in one year from August 1, 1915; \$1,581,000 were payable in two years; and \$1,581,000 were payable in three years from August 1, 1915. The issue of bonds to the amount of \$1,581,000, for which approval is now asked, is for the purpose of refunding the third named of the issues to that amount, referred to above.

Since the interest on these bonds, under the provisions of chapter 159 of the Special Acts of the year 1918, will in effect be guaranteed by the Commonwealth for at least 10 years, the Commission has been in doubt whether an interest rate of "not exceeding seven per centum per annum" ought to be approved, as requested in the petition. We have been advised, however, by the public trustees who have been appointed to manage and operate the Boston Elevated Railway Company (the lessee of the West End Street Railway Company) under the provisions of the aforesaid special act, that they desire such approval, believing that it might be impossible to market the bonds under present conditions if the maximum interest rate were fixed at a lower point.

It appearing, after notice and hearing and further investigation, that the proposed issue of bonds is for a lawful purpose and is consistent with the public interest,—

It is

Ordered, That the approval of the Commission be hereby given to the issue by the West End Street Railway Company of coupon or registered bonds to an amount not exceeding, at par value, one million five hundred eighty-one thousand dollars (\$1,581,000), said bonds to be payable not exceeding thirty (30) years from date thereof and to bear interest at a rate not to exceed seven per cent (7%) per annum, as an issue of bonds reasonably necessary and of the amount required for the purpose of refunding outstanding bonds of the West End Street Railway Company to the amount of one million five hundred eighty-one thousand dollars (\$1,581,000) which become due August 1, 1918.

Any excess in the proceeds of this issue of bonds over the amount above named, which may be realized from premiums, shall be held for such application to the cost of permanent additions to and improvements in the property of the petitioner as the Commission shall hereafter approve.

Attest: ANDREW A. HIGHLANDS,

JULY 5, 1918. [P. S. C. 2156]

Secretary.

CAR CONSTRUCTION.

Petition of Connecticut Valley Street Railway Company for approval of type and use of one-man cars upon its Millers Falls division in the town of Montague, and upon its Conway street line in the town of Greenfield.

This is a petition of the Connecticut Valley Street Railway Company for permission to operate so-called "one-man cars" on two branch lines of light traffic, one in the town of Montague, known as the Millers Falls division, and the other in the town of Greenfield, known as the Conway street line. When the petition was originally filed it was accompanied by blue-print plans of new equipment, having safety device features and of the type approved by the Commission in other similar cases. (See 5 P. S. C. Rep., pp. 323-333.) At the hearing, however, which was held on November 8, 1917, the company claimed inability to secure new cars of this character, and the suggestion was made that existing equipment might be remodeled to obtain the desired safety features. The petition was placed on file pending the submission of plans to accomplish this result.

No such plans have since been filed, but on July 11, 1918, the company wrote the Commission, stating its desire to operate the cars now in use on the Millers Falls division with one man, without remodeling, merely closing the rear doors and requiring passengers to enter and leave by the front end. At the hearing no opposition was offered, and on July 31, 1918, the Commission received a communication from the president of the Turners Falls Board of Trade, stating that at a meeting of the Committee on Transportation of that organization and representatives from Millers Falls and Montague Center the following vote had been passed: —

Voted, That it is the sense of this meeting that the people of the Town of Montague, as represented by this Committee, will be entirely satisfied with any arrangement the Connecticut Valley Street Railway Company can make with the Public Service Commission of Massachusetts relative to running "One-Man cars," so-called, on its Millers Falls Division.

The Millers Falls division of the Connecticut Valley Street Railway Company starts at Turners Falls and runs east across Montague Plains about five miles to Lake Pleasant, and at that

point branches, one line going about two miles to Millers Falls, and another a similar distance to Montague Center. The district traversed is sparsely settled and the traffic exceedingly light. In the morning and evening workmen travel in some volume between Turners Falls and Millers Falls, but there are few passengers at other hours. Last April the company announced its intention of terminating service on this division on the first day of July, but subsequently existing motor bus competition was curtailed by regulations which were adopted by the town of Montague, and the company decided not to abandon operation. In its letter of July 11 the company states that it wishes to do everything that it can to make this division self-supporting and "also to meet the wishes of the citizens of the town of Montague as to service." At present there is no service between 8 A.M. and 1 P.M. or after 7 P.M. in the evening. The company believes that "if more service were provided we could increase somewhat the gross," but submits that its "ability to give patrons of this line more service seems to be largely dependent upon our ability to cut down our labor cost." To accomplish this result, it seeks approval of one-man operation and contemplates, if permission is granted, putting on additional trips in the afternoon and evening. In view of the present high cost of operation and the greatly advanced price of new equipment and the state of its own finances, the company does not feel that it ought to go to the expense of furnishing new cars for this division under existing conditions, even if they could be obtained, but urges that it be permitted "temporarily, at least," to utilize equipment now in its possession for one-man operation. It is a part of its plan, however, to provide two men on the "morning trip and the late afternoon trip, on which workmen are taken to Millers Falls, and vice versa at night," by utilizing as a spare conductor one of the passengers who is an ex-employee of the street railway company.

In the past the Commission has been unwilling to approve one-man operation upon the plan now desired by this company. Within the past two years, however, it has in several instances approved the use of cars specially constructed or reconstructed for such operation. These cars are equipped with safety features which were described in a report by our Inspection Department as follows: —

There are two doors, one on the right side of each end and each car is arranged for prepayment service. The controller handle is of the "dead man" type, arranged so that if the pressure of the hand on it is released

at any time, when the air brakes are not set, certain emergency features will be put into operation. The cars are equipped with combination straight air and automatic emergency brakes and also with hand brakes. The emergency features, which are set in operation by releasing pressure on the "dead man" handle, consist of arrangements for throwing off the power, applying sand to the rail, setting the automatic air brakes, opening the forward door and unlocking the rear one. These emergency features are controlled and operated by air and are not dependent upon the presence of power, and can be effected whether the car is moving or standing. In case of failure in the air apparatus, the hand brake can be used and the doors opened and closed by hand, but of course in this case the safety features would be absent. The operator's brake valve controls the service and emergency brake operations, the door movements and also the service application of sand to the rail.

These special features have been devised not only for safety, but for convenience of operation. It is essential to the successful use of one-man cars, on lines where traffic congestion may occur, that they should be designed to load and unload quickly and that the motorman should be able to operate the doors and other apparatus with maximum ease and rapidity. Experience has shown that the use of old and inappropriate equipment for one-man service on such lines is apt to prove disappointing, not only to patrons but to the company as well.

The question arises, however, whether the conditions are such on the Millers Falls division of the petitioner's railway that an exception to the general rule followed by the Commission in the past can wisely and properly be made. If the company provides two men for the morning and evening trips, when the load is heaviest, traffic is so light in this division that one man can easily collect fares, operate the car and maintain schedule time even with old equipment not designed for one-man operation. The issue, therefore, becomes one of safety alone. Operating conditions on the route are not unfavorable except at the Turners Falls end, where there is a long and comparatively steep grade, with a right angle turn about 600 feet from the bottom. Very recently a car ran away on this grade, leaving the track at the curve and injuring a number of passengers. This occurred with a conductor on the car, as well as a motorman, and there seems little reason to believe that the consequences would have been more serious under one-man operation. At the same time, the accident illustrates the danger incident to this portion of the route, and it is not hard to conceive of circumstances under which the presence of the second man, on a car of the type now in use, would be an important factor of safety.

The Commission is fully aware of the financial straits in which many street railways of the Commonwealth now find themselves, under war-time prices and wages, and appreciates the benefit which may come both to the public and to the companies from the extension of one-man operation along well-considered lines. It is our belief that such operation ought to be encouraged, and the Commission is ready to approve the use by the petitioner upon its Millers Falls division of new one-man cars of modern design, or of old cars properly reconstructed for such use. It is possible, indeed, that all the special devices above described would not be necessary, and any plans for simplified reconstruction which the company may desire to submit will be received and reviewed without prejudice. It is our information that reasonably prompt deliveries can be expected, either of new equipment or of apparatus necessary for reconstruction purposes. After careful consideration, however, the Commission is not willing to approve the mere elimination of the conductor, without any adaptation of the existing cars for one-man operation. We reach this conclusion, not only because of the recently demonstrated danger of operation upon the line in question, but because of a belief that it would not be a desirable precedent to set. The companies in other parts of the country which have derived financial advantage from one-man operation, have not gained only from the saving of labor, but also, and in perhaps greater degree, from the improvement of service which it has made possible. There may be lines where the make-shift arrangement proposed by the petitioner may reasonably be permitted, but in the great majority of cases it would, in our judgment, be inconsistent with both the public and the company's interest. The petition is therefore dismissed.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 10, 1918.

[P. S. C. 1863]

Secretary.

Petition of Middlesex and Boston Street Railway Company for approval of design of one-man cars and for permission to operate such cars over certain routes of its railway.

After notice and hearing and full consideration, — it is

Ordered, That the approval of the Commission be hereby given to the operation by the Middlesex and Boston Street Railway

Company of four one-man cars rebuilt from cars now owned by said company, and to the purchase and operation of six additional cars of the same type, over the following routes:—

	Cars.
Woburn line, from Woburn to Lexington,	1
Waltham-Lexington line,	2
Hopkinton-Westborough line,	1
Saxonville-Wayland line,	1
Wellesley square-Needham line,	1
Newton Upper Falls-Needham line,	1
Newton Centre line,	1
Newton Highlands-Lake street line,	2

and over such further routes as the Commission may from time to time by order approve, each car to be equipped with the safety devices heretofore approved by the Commission, all as shown on plans on file with the petition: *provided, however*, that the Middlesex and Boston Street Railway Company shall adopt the following rules and operate said one-man cars in accordance therewith:—

1. When a car is running the operator shall transact no business relative to the collection of fares or the issue of transfers.
2. If the operator has occasion to leave his car he shall remove and retain in his possession the reverse handle of the controller.

Attest: CHARLES E. MANN,
FEBRUARY 28, 1918. [P. S. C. 2029] *Executive Secretary.*

Petition of the Boston Elevated Railway Company for approval of purchase of cars.

After consideration,—

It is

Ordered, That the approval of the Commission be hereby given to the purchase, by the Boston Elevated Railway Company, of two hundred (200) additional center-entrance motor cars, substantially in accordance with plans numbered 13,364-G and 13,363-I; also one hundred (100) additional cars of the trailer type, substantially in accordance with plans numbered 11,938, 11,951 and 11,968, all of said plans being on file in this office.

Attest: ANDREW A. HIGHLANDS,
MAY 31, 1918. [P. S. C. 2145] *Secretary.*

CAR HEATING.

Petition of the Boston and Maine Railroad for exemption from the requirements of law in relation to heating cars by steam.

After consideration, —

It is

Ordered, That the Boston and Maine Railroad be hereby exempted until the first day of October, 1919, from the law requiring passenger cars to be heated by steam from the locomotive, in respect to cars on certain mixed trains on the Merrimac Branch of the Portland Division, the Ashburnham Branch of the Fitchburg Division, the Acton Branch of the Worcester, Nashua and Portland Division and the Easthampton Branch of the Connecticut and Passumpsic South Division, all of said cars to be heated by the Baker heater, heretofore approved by the board of railroad commissioners.

Attest: ANDREW A. HIGHLANDS,
NOVEMBER 13, 1918. [P. S. C. 2311] Secretary.

Petition of the New York, New Haven and Hartford Railroad Company for exemption from the law in relation to heating cars by steam.

After consideration, —

It is

Ordered, That the New York, New Haven and Hartford Railroad Company be hereby exempted until the first day of October, 1919, from the law requiring passenger cars to be heated by steam from the locomotive in respect to cars on certain mixed trains on the Boston, Danbury, New Haven, New London and Old Colony divisions of its railroad, specified in the petition, in which freight cars are placed between the locomotive and passenger cars; also on trains 900 and 901 of the Central New England railway between Springfield and Tariffville; all of said cars to be heated by the Baker heater heretofore approved by the Board of Railroad Commissioners.

Attest: ANDREW A. HIGHLANDS,
OCTOBER 2, 1918. [P. S. C. 2275] Secretary.

CROSSINGS, RAILROAD OR RAILWAY.

RAILROAD AND RAILWAY CROSSINGS.

Petitions of the Middlesex and Boston Street Railway Company for modification of orders relative to protection of grade crossings of its railway and the Boston and Maine railroad at Lexington street in Waltham and Loomis street in Bedford.

At the hearing on these petitions it appeared that the Middlesex and Boston Street Railway Company maintains special crossing tenders at the crossings named above, in addition to the protection furnished by the steam railroad company.

Waltham. — The Lexington street crossing in Waltham is over the track formerly known as the Central Massachusetts railroad. There is only one track of each company at this point, making it a single track crossing. The crossing is protected by gates which are operated from a gate-stand at the westerly end of the station which is 147 feet from the center of the crossing. Looking west from the latter point, a clear view of the railroad track can be obtained for a distance of about 1,580 feet and looking east, a clear view is obtained for about 1,041 feet.

Bedford. — The Loomis street crossing in Bedford is over the Lexington branch of the Boston and Maine railroad and is protected by gates. Looking northerly from the center of the crossing, a clear view can be obtained for about 1,450 feet to Main street. This view is possible on account of an open field on the easterly side of the track. Looking southeasterly from the same point, a clear view is obtained for a distance of about 660 feet.

In view of the amount and character of the traffic at these crossings, and in consideration of other conditions at these points, —

It is

Ordered, That the Middlesex and Boston Street Railway Company be hereby authorized to discontinue the services of special crossing tenders at the Lexington street crossing in Waltham and the Loomis street crossing in Bedford, upon the understanding that the company shall install a wire trolley-guard over the railroad tracks at each of these crossings, and that each car shall

come to a stop within one hundred feet of the railroad track, the conductor of the car to go forward to a point upon said track and carefully ascertain whether any engine, train or car is approaching on the railroad, or is within sight or sound of the crossing. The railway car shall not start to cross the railroad track until the conductor so directs, and he shall remain on the railroad until the car has reached and crossed over said track.

By the Commission,

ANDREW A. HIGHLANDS,

DECEMBER 16, 1918.

[P. S. C. 2288, 2289]

Secretary.

Petition of the Grafton and Upton Railroad Company for consent to construction of tracks at grade across the Milford and Uxbridge street railway in the town of Hopedale.

It appearing, after notice and hearing and full consideration, that the petitioner has been granted a relocation of its railroad in the town of Hopedale, which crosses the tracks of the Milford and Uxbridge street railway at grade in said town at a different point than that heretofore authorized, —

It is

Ordered, That the consent of the Commission be hereby given to the construction and maintenance by the Grafton and Upton Railroad Company of its railroad at grade across the tracks of the Milford and Uxbridge street railway near Freedom street in the town of Hopedale, as shown upon a plan on file with the petition, the crossing of said railroad over the tracks of the Milford and Uxbridge Street Railway Company to be constructed and maintained by the street railway company at its own expense and in a manner satisfactory to the Grafton and Upton Railroad Company, as set forth and required in the proceedings authorizing the original crossing of the tracks of said companies, or, if the parties do not agree, in such manner as the Commission shall prescribe.

Attest:

ANDREW A. HIGHLANDS,

SEPTEMBER 5, 1918.

[P. S. C. 2152]

Secretary.

Petition of the Blue Hill Street Railway Company for authority to maintain and use an existing grade crossing, heretofore authorized, of railroad and railway in Canton.

After notice and hearing, —

It is

Ordered, That the petitioner be authorized to maintain and use a crossing of its railway and the tracks of the New York, New Haven and Hartford railroad at the same level at Washington street in the town of Canton, from the date of this order until January 1, 1920, unless otherwise ordered by the Commission, subject to all provisions of law and to the conditions embodied in the order of the Board of Railroad Commissioners dated November 5, 1900, and to the further condition that any substantial increase in the use of the crossing by the railway or railroad shall be seasonably reported by the petitioner to this Commission.

Attest: ALLAN BROOKS,
FEBRUARY 12, 1918. [P. S. C. 1986] *Assistant Secretary.*

Under the provisions of sections 21 and 22 of part I, chapter 463, Acts of 1906, during the period covered by this report, additional orders have been issued extending the time for maintenance of crossings of railroads and railways. Appended is a list of these orders: —

Bay State Street Railway.

East Bridgewater, February 14, 1918 — At Central street, with New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued November 1, 1897, to the Brockton and East Bridgewater Street Railway Company. [P. S. C. 1983-E]

Newbury, February 14, 1918 — At State street, with Boston and Maine railroad, until January 1, 1920. Original order issued April 4, 1900, to the Georgetown, Rowley and Ipswich Street Railway Company. [P. S. C. 1983-C]

Taunton, February 14, 1918 — At Dean street, with New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued March 19, 1900, to the Brockton Street Railway Company. [P. S. C. 1983-D]

Wakefield, February 14, 1918 — At North avenue (formerly Railroad street), with Boston and Maine railroad, until January 1, 1920. Original order issued May 2, 1901, to the Reading, Wakefield and Lynnfield Street Railway Company. [P. S. C. 1983-A]

Wilmington, February 14, 1918 — At Main street, with Boston and Maine, until January 1, 1920. Original order issued May 24, 1901, to the Lynn and Boston Railroad Company. [P. S. C. 1983-B]

Berkshire Street Railway.

Adams, February 12, 1918 — At Park street, with the Boston and Albany railroad, until January 1, 1920. Original order issued March 28, 1902, to the Hoosac Valley Street Railway Company. [P. S. C. 2017-A]

Pittsfield, February 12, 1918 — At Dalton road, with the Boston and Albany railroad, until January 1, 1920. Original order issued May 22, 1902. [P. S. C. 2017-B]

Concord, Maynard and Hudson Street Railway.

Concord, February 19, 1918 — At Main street, with the New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued February 1, 1902, to the Concord and Clinton Street Railway Company. [P. S. C. 2031-B]

Maynard, February 19, 1918 — At Main street, with the Boston and Maine railroad, until March 1, 1918. Original order issued July 23, 1901. [P. S. C. 2031-A]

Milford, Attleborough and Woonsocket Street Railway.

Milford, February 12, 1918 — At South Main street, with the Grafton and Upton railroad, until January 1, 1920. Original order issued July 26, 1900. [P. S. C. 1980]

Milford and Uxbridge Street Railway.

Hopedale, February 12, 1918 — With Grafton and Upton railroad, until January 1, 1920. Original order issued June 25, 1901. [P. S. C. 1967]

Northern Massachusetts Street Railway.

Templeton, February 11, 1918 — At Athol road, with the Boston and Albany railroad, until January 1, 1920. Original order issued January 14, 1901, to the Phillipston Street Railway Company. [P. S. C. 2032]

Springfield Street Railway.

Ludlow, February 13, 1918 — At Winsor street, with the private railroad of the Ludlow Manufacturing Associates, until January 1, 1920. Original order issued April 1, 1911. [P. S. C. 1979-A]

Palmer, February 13, 1918 — At the highway between Three Rivers and Thorndike, with the Boston and Albany railroad, until January 1, 1920. Original order issued April 4, 1898, to the Palmer and Monson Street Railway Company. [P. S. C. 1979-B]

Springfield, February 13, 1918 — At Main street in Indian Orchard, with the Boston and Albany railroad, until January 1, 1920. Original order issued July 22, 1902. [P. S. C. 1979-C]

Springfield, February 13, 1918 — At Wilbraham road, with the New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued March 21, 1902. [P. S. C. 1979-D]

Worcester Consolidated Street Railway.

Berlin, February 13, 1918 — At the highway near the West Berlin station, with the New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued November 8, 1899, to the Clinton and Hudson Street Railway Company. [P. S. C. 1981-A]

Leominster, February 13, 1918 — At Water street, with the New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued December 29, 1898, to the Fitchburg and Suburban Street Railway Company. [P. S. C. 1981-B]

Northborough, February 13, 1918 — At Main street, with the New York, New Haven and Hartford railroad, until January 1, 1920. Original order issued March 10, 1898, to the Worcester and Marlborough Street Railway Company. [P. S. C. 1981-C]

Worcester, February 13, 1918 — At Franklin street (formerly Bloomingdale road), with the Boston and Albany railroad, until January 1, 1920. Original order issued February 18, 1902. [P. S. C. 1981-D]

SAFEGUARDS AT CROSSINGS.

Petition of the Selectmen of the town of Wakefield for release from the provisions of chapter 246 of the General Acts of 1917, relative to the maintenance of warning signs at certain grade crossings on the Boston and Maine railroad in said town.

Section 1 of chapter 246 of the General Acts of 1917 provides that —

Within six months after the passage of the act, every county, city and town within the commonwealth shall, except as hereinafter provided, . . . place and thereafter maintain warning signs on every public way subject to its jurisdiction, where the way crosses the tracks of a railroad at grade . . .

Section 4 of said act further provides that —

If in the case of any railroad grade crossing it appears that the placing of the signs prescribed by section one hereof is impracticable or unnecessary, the public service commission, on petition, may release the county, city or town, as the case may be, from the provisions of said section.

It is under the provisions of the latter section that this petition is brought.

The petitioners in this case ask to be released from the erection and maintenance of warning signs in the town of Wakefield, at the following crossings: —

Broadway.	Richardson street.
Albion street.	Water street.
West Chestnut street.	New Salem street.
Prospect street.	Salem street.
North avenue.	Lowell street.
Main street.	Malvin street.
Bennett street.	Salem street (on the Salem branch).

They base their request on the ground that these crossings are protected by crossing gates or a flagman, and that, in view of this fact, warning signs would seem to be unnecessary, and the expense in connection with their installation and maintenance would not be warranted.

The enactment of the statute under which these signs are required, was pursuant to certain recommendations made by a joint committee on "Grade Crossings and Trespassing on Railroads," of the National Association of Railway Commissioners, and a special committee on the "Prevention of Accidents at Grade Crossings" of the American Railway Association. These recommendations were made for the purpose of securing a better and more uniform method of protection throughout the country. Later this joint committee, and the executive committee of the American Automobile Association drafted a tentative bill with this object in view. This Commission, in its annual report to the Legislature in 1917, pointed out that the rapid increase in recent years of the use of automobiles had intensified the danger at railroad grade crossings, and submitted so much of this tentative draft as was necessary to make effective the specific recommendations of the National Association of Railway Commissioners.

Since the enactment of this law only four towns in the state have petitioned to be relieved from the obligations imposed

thereunder. One of the petitioners asked only to be relieved where there were complications due to the intersection of other streets close to the crossing, and two of the others have since withdrawn their petitions.

There have been several cases where serious accidents have happened, due to drivers of automobiles running into the gates when they were down to protect the crossing, and also into the sides of trains, both standing and moving over these crossings. Some of these accidents might have been prevented if these warning signs had been installed. They are in general use throughout the state, and the Commission is of the opinion that the installation of warning signs at these crossings as specified in the petition is not impracticable or unnecessary and that they should be installed.

The petition is therefore dismissed.

By the Commission,

FEBRUARY 27, 1918. [P. S. C. 1976] ALLAN BROOKS,
Assistant Secretary.

Petition of the Board of Supervisors of the city of Springfield for release from the requirements of chapter 246 of the General Acts of 1917 relative to the installation of warning signs at certain railroad grade crossings in that city.

Memorandum.

After an inspection of the crossings by a member of the Inspection Department of the Commission and a conference with the engineer in charge of streets, the city has decided to install signs at the crossings in question. No further action is therefore necessary and the petition is placed on file.

For the Commission,

DECEMBER 23, 1918. [P. S. C. 2257] ANDREW A. HIGHLANDS,
Secretary.

Petition of the selectmen of the town of Auburn for the establishment of protection at the Pondville crossing (Mill street) of the New York, New Haven and Hartford railroad in that town.

Memorandum.

A hearing was held upon this petition on January 3, 1918. It appeared that the selectmen of the town had already presented the subject matter of the petition to officials of the railroad company, with a view to having an electric bell installed at the crossing in question, and that the company had arranged to install the same. The original equipment, however, had been received in a damaged condition and considerable delay was experienced in obtaining other equipment.

The Commission has now been informed by its inspection department that the warning bell has been installed at the crossing, and as further action by the Commission appears to be unnecessary, the petition is placed upon file.

Attest: ANDREW A. HIGHLANDS,
MARCH 20, 1918. [P. S. C. 1982] Secretary.

Petition of the selectmen of Braintree for temporary release from the requirements of chapter 246 of the General Acts of 1917 relative to the installation of warning signs at grade crossings on the New York, New Haven and Hartford railroad in that town.

The selectmen of Braintree have been unable to comply with provisions of chapter 246 of the General Acts of 1917, requiring the placing of warning signs at railroad grade crossings, within the period specified therein, owing to delay in the manufacture of the signs and delivery by the railroad company and to the unfavorable weather conditions which have prevailed since their receipt by the petitioners. An extension of time in which to install the signs is therefore requested.

After consideration, — it is

Ordered, That the selectmen of the town of Braintree be hereby released from the requirements of chapter 246 of the General Acts of 1917 relative to the placing of warning signs at railroad grade crossings in that town, for a temporary period terminating May 1, 1918, upon the understanding that said signs be installed at an earlier date if weather conditions permit.

Attest: ANDREW A. HIGHLANDS,
MARCH 18, 1918. [P. S. C. 2062] Secretary.

Petition of citizens of Franklin relative to protection at the grade crossings in that town at Union street, commonly called Nason's, and the Washington street crossings, commonly called Clark's, Stockbridge and Daniels' crossings.

Union street crosses the tracks of the main line of the New York, New Haven and Hartford railroad about three-quarters of a mile west of the Franklin railroad station. There are six tracks crossing the highway, with two additional tracks close to the crossing. It is protected by gates operated by a gateman between the hours of 6.15 A.M. and 8.15 P.M. Four regular scheduled freight trains are operated over this crossing between the hours of 8.15 P.M. and 6.15 A.M., when no protection is afforded. Two of these trains do local work and often switch over the crossing. The petitioners believe that present conditions are dangerous, and ask that the same form of protection be extended throughout the twenty-four hours of the day, because of this switching, and because cars are allowed to stand on the side tracks nearby, obstructing the view from the highway, and because of the large number of tracks at the crossing.

The three Washington street crossings, mentioned in the petition, over the tracks of the Providence branch of the railroad, are all within a distance of 6,800 feet and are commonly known as Clark's, Stockbridge and Daniels' crossings. Clark's crossing is the most northerly of the three and crosses the track at an angle of about 45°. There are but two scheduled passenger trains a day each way over this branch, except on Saturdays, when there are three. There is also one regular freight train each way during the day. The view approaching the crossing on the highway from the north is somewhat obstructed, due to the contour of the adjoining land. At the Stockbridge and Daniels' crossings there is a good view of approaching trains from either direction, the brush along the highway having been removed since the petition was filed.

After public hearing and report by its inspection department, the Commission is of the opinion that, for the safety of the traveling public, the protection now afforded at Union street crossing should be extended throughout the twenty-four hours of the day, and that electric warning bells should be maintained at the Washington street crossing, known as Clark's crossing. In view of the limited number of trains operated on this branch, and the opportunity afforded those using the highway at the Stockbridge and Daniels' crossings to observe approaching trains, the Com-

mission does not feel justified in ordering protection at these two crossings.

It is therefore

Ordered, That the New York, New Haven and Hartford Railroad Company maintain a gateman to operate the gates at the crossing of its main line and Union street in the town of Franklin during the twenty-four hours of the day, and that the company install and maintain an electric warning bell at the crossing of the Providence branch of its railroad with Washington street, known as Clark's crossing, in said town of Franklin.

By the Commission,

ANDREW A. HIGHLANDS,

MARCH 22, 1918. [P. S. C. 1959].

Secretary.

Petition of the selectmen of Hingham for release from requirements of chapter 246 of the General Acts of 1917 relative to the maintenance of warning signs at grade crossings on the New York, New Haven and Hartford railroad in that town.

Memorandum.

A hearing was held upon this case on January 24, 1918, and the matter has been further considered at a subsequent conference with the petitioners. In a communication to the Commission March 2, 1918, the selectmen of Hingham requested leave to withdraw the petition, assent to which is hereby given.

Attest: ANDREW A. HIGHLANDS,

MARCH 12, 1918. [P. S. C. 2041]

Secretary.

Petition of the Nantasket Lands Protective and Improvement Association relative to inadequate service and need of crossing protection on the New York, New Haven and Hartford railroad in the town of Hull.

A few years ago the attention of the Board of Railroad Commissioners was called to the fact that three railroad grade crossings on Nantasket avenue in Hull needed additional protection, and after a hearing upon its own motion and further investigation, the Board, under date of June 5, 1913, issued recommendations affecting all travelled ways located in that portion of the town, which has a large population during the summer months. Some of these crossings have not been laid out as public high-

ways across the railroad location, but are extensively used for public travel during the summer season. The recommendations were: —

1. That during such portions of the year as the Nantasket Beach Steamboat Company maintains a steamboat service between Boston and the town of Hull, the New York, New Haven and Hartford Railroad Company cause flagmen to be maintained at the crossings known as Kenberma street, near Kenberma station; A street, near Waveland station, and L street, near Bayside station.

2. That at all other stations in the town, protected by gates or flagmen, protection be given during all hours when any engine, car or train is operated during the same season of the year.

3. That during the remainder of the year all engines, cars or trains approaching any of these crossings in either direction be under control and pass over them at a rate of speed not greater than four miles per hour.

The present petition is for gates instead of flagmen at Stony Beach and Allerton crossings, and also at the three crossings described above. At the hearing the company contended that the provisions of the recommendations of 1913 were being strictly observed, and that there had been no accident at any of the crossings involved since the recommendations were made; that when the warning signs for crossings of highways and railroads, recommended by the National Association of Railway Commissioners last year, have been placed in position by the selectmen of Hull, they will be an added protection; and that, owing to acute angles at the crossings at Stony Beach and Allerton, the gates installed would have to be very long and difficult to operate, or they must be placed at right angles to the highway, which would make the space inside the gates so long as to create a condition dangerous to automobiles or other vehicles which might happen to be caught between them.

The hearing having developed no evidence to justify the Commission in making any modification of the original order, the petition is hereby dismissed.

The petitioners also asked that improved train service be furnished by the company. The summer schedule, providing 36 trains, or 18 round trips, daily, doubtless removes any reasonable cause of complaint, thus making action by the Commission at this time unnecessary.

For the Commission,

ANDREW A. HIGHLANDS,

JULY 25, 1918. [P. S. C. 1893]

Secretary.

Petition of the selectmen of the town of Yarmouth for release from the requirement of chapter 246 of the General Acts of 1917 relative to the maintenance of warning signs at certain grade crossings on the New York, New Haven and Hartford railroad in that town.

Memorandum.

Following the hearing on this matter and an investigation by the Inspection Department of the Commission, the petitioners have decided to erect warning signs at the crossings named in the petition and have requested that no action be taken. The petition is therefore placed on file without prejudice.

Attest: ANDREW A. HIGHLANDS,
JANUARY 29, 1918. [P. S. C. 1999] Secretary.

PRIVATE RAILROADS.

Petition of Gilbert and Barker Manufacturing Company for consent to the construction and maintenance of railroad for private use across certain ways in West Springfield.

It appearing that the selectmen of the town of West Springfield have consented to the construction of the proposed railroad across the ways; that the county commissioners of Hampden County have adjudged that public necessity requires that the railroad cross the ways at a level therewith, and that the same is consistent with the public interests, — it is

Ordered, That the consent of the Commission be hereby given to the construction and maintenance by the petitioner of a railroad for private use in the transportation of freight, to be operated by steam power upon and across Cold Spring avenue (known as Albany street), Cornell street, James street and Passageway, in the town of West Springfield, as shown upon a plan dated April 10, 1918, on file with the petition.

This consent is given upon the condition that a flagman shall display a flag by day and a lantern by night whenever an engine, car or train is approaching and while it is passing over said crossings, and that no engine, car or train shall cross at a greater speed than four miles an hour.

Attest: ANDREW A. HIGHLANDS,
MAY 31, 1918. [P. S. C. 2085] Secretary.

During the year additional orders have been issued consenting to the construction of railroads for private use in the transportation of freight across highways, as follows: —

Boston, May 31, 1918 — Linde Air Products Company, across East First street, South Boston. [P. S. C. 2137]

Boston, July 29, 1918 — S. A. Woods Machine Company, across Alger street, South Boston. [P. S. C. 2219]

Brockton, June 27, 1918 — George E. Keith Company, across Forest street. [P. S. C. 2153]

Erving, August 6, 1918 — Washburn and Heywood Chair Company, across old County road. [P. S. C. 2237]

Everett, February 6, 1918 — New England Structural Company, across Second street. [P. S. C. 1992]

Montague, April 17, 1918 — F. I. Webster Company, across an alley leading north from Eleventh street. [P. S. C. 2103]

Waltham, September 13, 1918 — Massachusetts School for the Feeble-Minded, across Waverley Oaks road. [P. S. C. 2244]

Worcester, December 9, 1918 — Worcester Electric Light Company, across Webster street, Worcester. [P. S. C. 2304].

ABOLITION OF GRADE CROSSINGS.

Petition of the New York, New Haven and Hartford Railroad Company for certificate relative to abolition of grade crossing in South Boston.

After notice and hearing and an examination of the proposed plan for the abolition of the grade crossing of the tracks of the New York, New Haven and Hartford Railroad Company and the highway known as West First street in the South Boston district of the city of Boston, as set forth in the report of the special commission appointed by the Superior Court to consider the matter, and after consideration of the expenditure therein authorized, — it is

Ordered, That the Commission hereby certify that in its opinion the adoption of said plan and the incurring of such expenditure are consistent with the public interests and are reasonably required to secure a fair distribution between the different cities, towns and railroads of the Commonwealth of the public money appropriated for the abolition of grade crossings, and that such expenditure will not in its judgment exceed the amount to be paid by the Commonwealth under the provisions of law relating thereto.

Attest:
AUGUST 20, 1918. [P. S. C. 2233]

ALLAN BROOKS,
Assistant Secretary.

ALTERATION OF CROSSINGS.

Petition of the New York, New Haven and Hartford Railroad Company for approval of agreement for alteration in the crossing of Massachusetts avenue and the railroad in the city of Boston.

It appearing, after notice and hearing, that the mayor and city council of the city of Boston and the directors of the New York, New Haven and Hartford Railroad Company are of opinion that it is necessary for the security and convenience of the public that an alteration be made in the crossing of Massachusetts avenue and the tracks of the New York, New Haven and Hartford railroad in the city of Boston; that they are agreed upon the character of the alteration to be made, and that an instrument in writing specifying the manner and limits within which said alteration shall be made, the party by whom the work shall be done, the general method of construction and the apportionment of cost, has been duly executed by the mayor of the city of Boston and by the president of the New York, New Haven and Hartford Railroad Company, a copy of which agreement is as follows:—

AGREEMENT FOR ALTERATION OF HIGHWAY KNOWN AS MASSACHUSETTS AVENUE, WHICH CROSSES THE RAILROAD OF THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY IN THE CITY OF BOSTON.

Whereas, There is a certain highway known as Massachusetts avenue in the city of Boston, which crosses the railroad of the New York, New Haven and Hartford railroad below the tracks of said railroad, and the directors of said railroad company, and the mayor and council of said city, are of the opinion that it is necessary for the security and convenience of the public that an alteration be made at this time in said crossing by which additional tracks shall be carried across the highway for a classification yard and for other purposes in addition to the tracks now crossing under said highway, and have agreed as to the alteration which shall be made;

Now, therefore, In pursuance of the provisions of the acts of 1906, chapter 463, part 1, section 41, and acts in amendment thereof and in addition thereto, this agreement in writing is made and signed in behalf of said city, by the mayor, thereunto duly authorized by the Council, and in behalf of said railroad company, by its president, thereunto duly authorized by the directors, specifying the manner and the limits within which the alteration shall be made, by whom the work shall be done, the method of construction, and how the costs shall be borne.

Alterations.

The additional tracks shall be carried across Massachusetts avenue on a new bridge east of the present bridge carrying the Midland Division mainline tracks.

The bridge shall be constructed of steel with solid concrete floor and shall rest upon abutments and steel columns; the abutments shall be constructed so their faces shall coincide with the side lines of the street, and the columns shall rest upon piers constructed near the curb lines of the sidewalks and in line with the piers supporting the present bridge. The width of the bridge on the southerly line of the street shall be about ninety-three (93) feet, and on the northerly line about one hundred twenty-five feet.

The bridge shall be constructed at such elevations as will provide the same clear headroom above the present surface of the street as now exists under the present bridge.

Plan.

The alteration hereinbefore described is shown upon a plan herewith and made a part hereof, entitled: "N. Y. N. H. & H. R.R., Midland Division, Proposed Alteration of Crossing of Massachusetts Ave. with tracks of the N. Y. N. H. & H. R.R., Sept. 13, 1918."

Performance of the Work.

The New York, New Haven and Hartford Railroad Company shall furnish all the material, and do all the work necessary to complete the above described alteration.

Apportionment of Expense.

The total cost of the alteration as aforesaid, including the cost of any necessary hearings, the expense of the Public Service Commission and its necessary agents, and all damages, shall be paid by the New York, New Haven and Hartford Railroad Company.

Signed in behalf of the City of Boston by its Mayor, thereunto duly authorized, and in behalf of the New York, New Haven and Hartford Railroad Company by its president thereunto duly authorized.

CITY OF BOSTON,

By ANDREW J. PETERS, *Mayor*.

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY,

By E. G. BUCKLAND, *President*.

It is

Ordered, That the approval of the Commission be hereby given to the agreement and to the alterations therein set forth, as necessary for the convenience and security of the public.

Attest: ANDREW A. HIGHLANDS,
OCTOBER 3, 1918. [P. S. C. 2279] *Secretary.*

Petition of the New York, New Haven and Hartford Railroad Company for approval of agreement for alteration of crossing of Southamp'on street and the tracks of the Old Colony railroad (New York, New Haven and Hartford Railroad Company, lessee) in the city of Boston.

This is a petition of the New York, New Haven and Hartford Railroad Company for approval of an alteration of crossing of Southampton street in the city of Boston and the tracks of the Old Colony railroad constituting the Boston division of the New York, New Haven and Hartford Railroad Company. This alteration is incidental to the proposed construction of a new classification yard by the New Haven Company in order to relieve the present congestion of its freight terminals in South Boston. This yard as planned is to consist of 25 tracks, is to be located on vacant land of the company between its Boston and Midland divisions, is to extend from South Bay junction to Massachusetts avenue, and would be intersected about midway by Southampton street. At present Southampton street is carried over the tracks of the Boston division and under the tracks of the Midland division, the two crossings being about a quarter of a mile apart. Obviously, if the classification yard is to be built and operated in the area between these crossings, Southampton street must be raised and carried over the yard by a viaduct. Provision is made for this method of alteration by an agreement, recently executed by the railroad company and the city of Boston under the provisions of section 41 of Part I of chapter 463 of the Acts of 1906. Under the statute the validity of this agreement is conditioned upon the Commission's approval of the alteration set forth in the agreement as "necessary for the convenience and security of the public," and such approval is sought in the pending petition.

It is recited in the agreement that the ultimate intention is to carry the viaduct over the classification yard and also over the tracks of the Midland division, and to have the grade at the westerly end run out in the vicinity of Burnham street. It was agreed, however, that it would be sufficient for the present to carry the viaduct over the classification yard only and to retain the present method of crossing under the tracks of the Midland division. The present plan provides for the construction of a steel viaduct about 530 feet long across the classification yard. The easterly end of the viaduct is to be built on an ascending

grade of 2.75 per cent, which is the grade of the easterly approach to the present crossing, until a clearance of 22 feet is obtained above the tracks, and thence at a level grade to the westerly end of the structure. Beyond that point the street is to be carried on a wooden trestle and earth fill at a descending grade of $4\frac{1}{2}$ per cent until it reaches the present street level at the easterly side of the bridge carrying the Midland division tracks over said street. The steel viaduct is to be paved with wooden blocks, the wooden trestle is to be planked and the earth fill is to be paved with granite blocks. In connection with this alteration the width of the street is to be narrowed by moving in the street lines 5 feet, both on the northerly and southerly sides, and the viaduct and wooden trestle are to be designed to provide a roadway 40 feet wide and two sidewalks each 10 feet wide.

At the present time the tracks of the Boston Elevated Railway Company water pipes of the city of Boston, a gas pipe of the Boston Gas Light Company, and conduits of the Edison Electric Illuminating Company, the New England Telephone and Telegraph Company and the Boston Elevated Railway Company are located in this portion of Southampton street. The gas and water pipes are now carried on the overhead bridge spanning the tracks of the Boston division, but it is proposed, in connection with the alteration, to carry these pipes under the railroad tracks on a pile foundation to be constructed by the railroad company. It is also planned to carry the conduits of the telephone company and those of the Elevated company under the sidewalk on the southerly side of the viaduct and the conduits of the Edison company under the northerly sidewalk. In general, the plans for the proposed alteration have been developed in consultation with representatives of the other public service companies having locations in the street, and their suggestions as to the most advantageous method of relocating existing tracks, pipes, conduits and other structures have, so far as practicable, been complied with.

By the terms of the agreement, the New Haven Company undertakes to furnish all material and do all the work necessary to complete the alteration, and to pay for the total cost thereof, but no provision is made for reimbursing the other public service companies for the expense of relocating existing tracks or other structures. Because no such provision is made, the Edison Company, the Elevated Company and the Gas Company appeared in

remonstrance to the petition. As they also complained that they had not been given a hearing by the mayor and city council of Boston prior to the execution of the agreement, the Commission suspended proceedings in order to afford counsel for said companies an opportunity to confer with the city authorities. Upon the resumption of hearings, counsel for the city stated that the city could not legally undertake to reimburse these companies for any of the expense incurred in connection with the proposed alteration, and that so long as its rights were safeguarded, the city could not properly withhold its consent to an agreement providing for an improvement which appeared to be in the general public interest. Counsel for the remonstrants then contended that the Commission should disallow the petition because of the heavy burden of expense thrown upon these companies with no resulting benefit to them or to their patrons.

The Boston Elevated Company claimed that during reconstruction the traffic now moving over Southampton street would have to be diverted via Boston street, Edward Everett square and Massachusetts avenue, that additional special work and changes in track at Edward Everett square would cost about \$12,000, that the cost of removing and relaying the track on Southampton street would amount to about \$17,500, that changes in conduits and line construction would cost about \$25,000 and that the expense of maintenance on the new location on account of the heavier grade and wooden planking would be increased by about \$1,000 a year. The company also claimed that the diversion of traffic over a more circuitous route during reconstruction would increase the cost of operation and involve delay and inconvenience to the traveling public. The expense of the Edison Company would amount to upwards of \$125,000 and that of the Gas Company to about \$20,000, according to the estimates submitted by these companies. In addition to these estimated expenditures for immediate alterations, each company would be subjected to a large additional expense when the present wooden trestle is taken down and the viaduct is extended over the tracks of the Midland division. Upon the ground that all these expenditures should be assumed by the New Haven Company as the sole beneficiary of the proposed alteration, it was argued that the Commission might properly find that the approval of this alteration was not required in the public interest, and that if the present petition were disallowed it would still be open to the New Haven Company either to make an adjustment by agreement with the other companies, or else to proceed under

section 23 of Part I of the general railroad law, and have the expense of the alterations apportioned, upon the basis of the equities between all parties, by the Special Commission provided for by the statute.

The claim of the remonstrants that this alteration is for the sole benefit of the New Haven Company raises the precise and only issue now before the Commission as to whether the alteration is necessary for the security and convenience of the public. In its report and order, dated June 15, 1917, upon the petition of the New York, New Haven and Hartford Railroad Company relative to the alteration of certain crossings in South Boston, the Commission stated that the establishment of a classification yard in the vicinity of Southampton street "is so desirable on general grounds for the good of the service that no unnecessary time ought to be lost in carrying the plans for its construction into execution." (5 P. S. C. Rep., pp. 356, 362.) Since that time the traffic demands upon the terminal facilities of the New Haven Company have been greatly increased, as the result of the expansion of the Fore River Shipbuilding plant at Quincy, and of the erection of the large Destroyer plant at Squantum, and other public and private manufacturing plants and storehouses which are being utilized for war work. Plans have also been made for the construction, on land formerly owned by the Commonwealth north of Summer street extension in South Boston, of an immense army supply base, costing, with its supporting railroad yard and other appurtenances, approximately \$28,000,000, which is to be used for embarkation purposes for the United States Army and for the handling of supplies destined for overseas shipments. The work of construction is well advanced, and will probably be completed within a few months. Commonwealth Pier has also been taken over by the United States government and is to be used to a very large extent for export purposes. The present terminal facilities of the New Haven Company are inadequate for the proper handling of this government business and the construction of a new classification yard at the earliest possible date is imperative. The company's land in the neighborhood of Southampton street appears to be the most advantageous site for such a yard, and no claim was made that it might or should be constructed elsewhere. The alteration of Southampton street, which is a necessary part of this projected improvement, thus appears to be desirable, not only in the interest of the commercial development of Boston and the growth of its export business, but also to meet the re-

quirements of the United States government in the prosecution of the war. These considerations, even if every reasonable allowance is made for the expense and hardship to the remonstrant companies, virtually compel an affirmative finding upon the only issue raised by the petition, as to whether the proposed alteration is necessary for the convenience and security of the public.

If the remonstrants are of the opinion that the approval of this alteration as set forth in the agreement would result in an invasion of their property rights, they have their remedy in the courts. It is, however, apparently settled law that while the structures of such companies are personal property which they have a right to remove, the rights which they exercise in the streets are not private rights of property but are a part of the public rights which are shared in common and which are subject to reasonable regulation or even termination at any time if the supreme authority acting in the public interest shall so determine. (*New Eng. Tel. and Tel. Co. v. Boston Term. Co.*, 182 Mass. 397.) In other words, the public service companies enjoy free franchises in the streets, and are subject to the necessity of having their property conform to the requirements of the public as a whole. Thus, in connection with the construction of the South station and the Boston Elevated subways, the discontinuance of streets, the abolition of grade crossings and similar matters the public service companies occupying the streets by license have been obliged to remove and relocate their structures at their own expense. The remonstrants have attempted to distinguish this case upon the ground that the alteration proposed under the pending petition is solely for the benefit of the New Haven company and not for the benefit of the public, but for reasons already pointed out that view does not appear to be tenable.

It is to be observed that in proceedings brought under section 41 the only parties to the agreement are the city and the railroad company, that no provision is made for a separate determination of the equities of other companies affected by the alteration and that such equities can be considered only in so far as they have a bearing upon the determination of the issue of public convenience and security. It may be argued that the statute is defective in this respect by making it possible for the railroad company to make an advantageous arrangement with the city at the expense of other interested parties, and that a preferable method of procedure is available under section 23, which provides a special tribunal for the apportionment of the

expense in a proceeding to which all the companies affected may become parties. The advantage to the remonstrants under the latter method of procedure would, however, appear to be more theoretical than real. Section 23 provides in the first instance for a determination by the Public Service Commission as to whether the alteration is necessary for the security or convenience of the public, and the issue being substantially the same as in the present proceeding, the Commission would obviously reach the same conclusion. As this finding would be controlling upon the Special Commission in its determination of the apportionment of expense, it would not be open to the remonstrants to argue before that Commission that this alteration was made for the sole benefit of the New Haven Company, but the rights and obligations of parties would be determined by the law and precedents applicable to the relocation of structures in the streets in connection with an improvement made in the general public interest, so that the remonstrants would be likely to be left in the same position as they now are under the agreement in this case.

But whatever may be the relative merits of the two modes of procedure authorized by the statutes, the Commission has no authority to control the option of the railroad company to proceed under section 41, or to nullify the provisions thereof by dismissing proceedings brought under that section and requiring the company to proceed under section 23 as suggested by the remonstrants. Moreover, even if the Commission had discretion to make such a disposition of the pending petition the need of facilitating the immediate undertaking of this important improvement is so urgent, and the delay involved in the initiation of new proceedings would be so great, that the Commission could not exercise such discretion without serious prejudice to the public interest. An order is therefore entered approving the agreement and the alterations therein set forth.

ORDER.

Petition of the New York, New Haven and Hartford Railroad Company for approval of agreement for alteration of crossing of Southampton street and the tracks of the Old Colony railroad (New York, New Haven and Hartford Railroad Company, lessee) in the city of Boston.

It appearing, after notice and hearing, that the mayor and council of the city of Boston and the directors of the New York, New Haven and Hartford Railroad Company and of the Old

Colony Railroad Company are of opinion that it is necessary for the security and convenience of the public that an alteration be made in the crossing in the city of Boston where Southampton street passes over the Old Colony railroad (New York, New Haven and Hartford Railroad Company, lessee); that they are agreed upon the character of the alteration to be made and that an instrument in writing specifying the manner and limits within which alteration shall be made, the party by whom the work shall be done, the general method of construction and the apportionment of cost has been duly executed by the mayor of Boston, the president of the New York, New Haven and Hartford Railroad Company and the president of the Old Colony Railroad Company, a copy of which agreement is as follows: —

AGREEMENT FOR ALTERATION OF HIGHWAY KNOWN AS SOUTHAMPTON STREET WHICH CROSSES THE RAILROADS OF THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY AND OF THE OLD COLONY RAILROAD COMPANY, IN THE CITY OF BOSTON.

Whereas, there is a certain highway known as Southampton street in the city of Boston, which crosses the railroad of the New York, New Haven and Hartford Railroad Company below the tracks of said railroad, and crosses the tracks of said Railroad Company, and of the Old Colony Railroad Company, leased to and operated by said The New York, New Haven and Hartford Railroad Company, above the railroad tracks, and the directors of said Railroad Companies and the Mayor and Council of said City are of the opinion that it is necessary for the security and convenience of the public that an alteration be made at this time in said second named crossing which shall permit the construction of additional tracks for a classification yard and for other purposes in addition to the tracks now crossing under said highway, and have agreed as to the alterations which shall be made;

Now, therefore, in pursuance of the provisions of the acts of 1906, chapter 463, part I, section 41, and acts in amendment thereof and in addition thereto, this agreement in writing is made and signed in behalf of said city by the Mayor, thereunto duly authorized by the Council, and in behalf of said Railroad Companies, by their Presidents, thereunto duly authorized by the directors, respectively, specifying the manner and limits within which the alterations shall be made, by whom the work shall be done, the method of construction, and how the costs shall be borne.

Alterations.

The southerly line of Southampton street shall be changed and established as follows: Beginning at a point in the present southerly line at the westerly end of the steel girder of the bridge carrying the street over the tracks of the Boston Division of the New York, New Haven and Hartford

Railroad Company; thence running westerly in a straight line eighty (80) feet to a point five (5) feet distant northerly from the present southerly line of Southampton street measured at right angles thereto; thence running westerly parallel to said present southerly line and five (5) feet distant northerly therefrom nine hundred sixty (960) feet; thence running westerly in a straight line one hundred (100) feet to a point in the present southerly line of Southampton street near the bridge carrying the Midland Division tracks of the New York, New Haven and Hartford Railroad Company over said street.

The northerly line of Southampton street shall be changed and established as follows: Beginning at a point in the present northerly line sixty-three (63) feet distant westerly from the easterly end of the steel girder of the bridge carrying the street over the tracks of the Boston division of the New York, New Haven and Hartford Railroad Company; thence running westerly in a straight line eighty (80) feet to a point sixty-five (65) feet distant northerly from the present southerly line of the street measured at right angles thereto; thence running westerly parallel to said present southerly line and sixty-five feet distant northerly therefrom nine hundred thirty-two and five tenths (932.5) feet; thence running westerly in a straight line one hundred (100) feet to a point in the present northerly line of Southampton street near the bridge carrying the Midland Division tracks of the New York, New Haven and Hartford Railroad Company, over said street.

The grade of Southampton street shall be changed and established as follows: Beginning at the easterly end of the bridge over the Boston Division tracks at the present established grade of the street; thence westerly by an ascending grade not to exceed 2.75 feet per 100 feet, and after passing over the proposed classification yard of the New York, New Haven and Hartford Railroad descending with a grade not to exceed $4\frac{1}{2}$ feet per 100 feet and meet the present grade of the street at the easterly side of the bridge carrying the Midland Division tracks over said street.

The present bridge carrying the street over the Boston Division tracks shall be raised to conform to the new grade hereby established. West of this bridge for a distance of about four hundred seventy (470) feet, the street shall be carried on a steel viaduct supported on steel columns so spaced as to permit of the construction of said classification yard. West of the steel viaduct, the street shall be carried on a wooden viaduct and earth fill. The new steel and wooden viaducts shall be designed to provide a roadway forty feet wide with two street car tracks and two sidewalks each ten (10) feet wide, but the present construction shall provide for the roadway and the sidewalk on the northerly side only, the other sidewalk to be added when in the opinion of the City of Boston the traffic needs of the street require it.

The roadway shall be paved with creosoted wooden blocks on the steel portion and with wooden planking on the wooden portion of the viaduct. On the present bridge over the Boston Division tracks and on

the earth fill the roadway shall be paved with granite blocks. The sidewalk on the entire viaduct shall have a plank surface and on the earth fill a brick pavement. The New York, New Haven and Hartford Railroad Company shall relay the 30-inch water pipe and the 16-inch water pipe in a location that will be satisfactory to the Commissioner of Public Works. The City is hereby granted the right to maintain the said water pipes in the new location.

During construction of the viaduct Southampton street within the limits of the alterations shall be closed to highway travel.

Plan.

The alterations hereinbefore described are shown upon a plan herewith, and made a part hereof, entitled "N. Y., N. H. & H. R.R. Boston and Midland Divisions Proposed Alteration of Crossing of Southampton St. with the Tracks of The N. Y., N. H. & H. R.R. July 6, 1918."

Performance of the Work.

The New York, New Haven and Hartford Railroad Company shall furnish all the material, and do all the work necessary to complete the above described alteration.

Apportionment of Expense.

The total cost of the alterations as aforesaid, including the cost of any necessary hearings, the expense of the Public Service Commission and its necessary agents, and all damages, and including the cost of the proposed sidewalk on the south side of Southampton street when the construction of such sidewalk is demanded by the City of Boston, shall be paid by the New York, New Haven and Hartford Railroad Company.

The Railroad Company shall maintain the entire structure and the wearing surface on the temporary portion of the viaduct.

It is the intention of the New York, New Haven and Hartford Railroad Company at such time in the future as financial considerations will permit to ask the assent and agreement of the City to the extension of the Southampton street viaduct provided for hereinbefore, substantially in accordance with the plan shown in dotted lines on the above named plan, and said last named Railroad Company hereby agrees that if and when the said city shall desire the completion of the work mentioned in this paragraph, it will make an agreement with the city to carry out such completion, said agreement to be of similar tenor to the present agreement and the work to be carried out at the expense of said The New York, New Haven and Hartford Railroad Company.

In connection with such future extension, the Railroad Company shall construct a permanent channel under Southampton street for the waterway known as Dorchester Brook, to the satisfaction of the proper city authorities.

Signed in behalf of the City of Boston, by its Mayor, thereunto duly authorized, and in behalf of the New York, New Haven and Hartford Railroad Company, and of the Old Colony Railroad Company, by their Presidents, thereunto duly authorized, respectively.

CITY OF BOSTON,

By ANDREW J. PETERS,
Mayor.

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY,

By E. G. BUCKLAND,
President.

OLD COLONY RAILROAD COMPANY,

By FAYETTE S. CURTIS,
President.

It is

Ordered, That the approval of the Commission be hereby given to the agreement and to the alterations therein set forth as necessary for the convenience and security of the public.

For the Commission,

ANDREW A. HIGHLANDS,

Nov. 4, 1918. [P. S. C. 2280] Secretary.

Petition of the city council of Boston for approval of agreement for alteration in the crossing of Walworth street and the railroad in the West Roxbury district of Boston.

It appearing, after notice and hearing, that the mayor and city council of the city of Boston and the directors of the New York, New Haven and Hartford Railroad Company and the Boston and Providence Railroad Corporation are of opinion that it is necessary for the security and convenience of the public that an alteration be made in the bridge which carries Walworth street over the Boston and Providence railroad (New York, New Haven and Hartford Railroad Company, lessee) in the West Roxbury district of the city of Boston; that they are agreed upon the character of the alteration to be made, and that an instrument in writing specifying the manner and limits within which said alteration shall be made, the party by whom the work shall be done, the general method of construction and the apportionment of cost, has been duly executed by the mayor of the city of Boston and by the presidents of the New York, New Haven

and Hartford Railroad Company and the Boston and Providence Railroad Corporation, a copy of which agreement is as follows: —

AGREEMENT FOR ALTERATION OF THE HIGHWAY KNOWN AS WALWORTH STREET AT CROSSING OF RAILROAD OF THE BOSTON AND PROVIDENCE RAILROAD CORPORATION IN THE CITY OF BOSTON.

Whereas, There is a certain highway in the city of Boston known as Walworth street, which crosses the railroad of the Boston and Providence Railroad Corporation, leased to and operated by the New York, New Haven and Hartford Railroad Company, above the grade of said railroad, and the mayor and council of said city, and the directors of said railroad companies are of the opinion that it is necessary for the security and convenience of the public that an alteration shall be made in said crossing, by which the bridge carrying the highway shall be widened, and have agreed as to the alterations which shall be made;

Now, therefore, In pursuance of the provisions of the Acts of 1906, chapter 463, Part I, section 41, this agreement in writing is made and signed in behalf of said city by the mayor, thereunto duly authorized, and in behalf of said railroad companies by their presidents, thereunto respectively authorized, specifying the manner and limits within which the alterations shall be made, by whom the work shall be done, the general method of construction, and how the costs shall be borne.

Alterations.

The bridge carrying Walworth street over the tracks of the railroad shall be widened by the construction of a five-foot sidewalk on each side thereof, said sidewalks to rest on stringers crossing the railroad and leaving a clear head room not less than that under the remaining portion of the bridge. The sidewalks on the approaches to said bridge at each end thereof shall be constructed so as to correspond with the sidewalks above mentioned.

Plan.

The alterations hereinbefore described are shown upon a plan herewith, and made a part hereof, entitled: "Walworth Street Bridge, Sept. 1, 1917, E. F. Murphy, Commissioner of Public Works."

Performance of the Work.

The City of Boston shall furnish all the material and do all the work necessary to accomplish the above described alterations.

Apportionment of Expense.

The total cost of the alterations as aforesaid, including the cost of any necessary hearings, the expenses of the Public Service Commission and its necessary agents, and all damages, shall be paid by the City of Boston.

Signed in behalf of the City of Boston, by the Mayor, thereunto duly authorized, and in behalf of the railroad companies, by their presidents, respectively, thereunto duly authorized.

CITY OF BOSTON,

By JAMES M. CURLEY,
Mayor.

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY,

By E. J. PEARSON,
President.

BOSTON AND PROVIDENCE RAILROAD CORPORATION,

By PHILIP DEXTER,
President.

It is

Ordered, That the approval of the Commission be hereby given to the agreement and to the alterations therein set forth, as necessary for the convenience and security of the public.

Attest: ANDREW A. HIGHLANDS,
MARCH 11, 1918. [P. S. C. 2067] *Secretary.*

Petition of the New York, New Haven and Hartford Railroad Company for approval of agreement for alteration of crossing at York street in the city of Springfield.

It appearing, after notice and hearing, that the mayor and board of aldermen of the city of Springfield and the directors of the New York, New Haven and Hartford Railroad Company are of opinion that it is necessary for the security and convenience of the public that an alteration be made in the crossing where the highway known as York street in the city of Springfield passes under the railroad of the New York, New Haven and Hartford Railroad Company; that they are agreed upon the character of the alteration to be made, and that an instrument in writing specifying the manner and limits within which said alteration shall be made, the party by whom the work shall be done, the general method of construction and the apportionment of cost, has been duly executed by the mayor of the city of Springfield and by the president of the New York, New Haven and Hartford Railroad Company, a copy of which agreement is as follows:—

AGREEMENT FOR THE ALTERATION OF THE HIGHWAY KNOWN AS YORK STREET CROSSING THE RAILROAD OF THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY IN THE CITY OF SPRINGFIELD.

Whereas, There is a certain highway in the city of Springfield known as York street, which crosses the railroad of the New York, New Haven and Hartford Railroad Company below the tracks of said railroad, and the directors of said railroad company and the mayor and board of aldermen of said city are of the opinion that it is necessary for the security and convenience of the public that an alteration shall be made in said crossing which shall permit the construction of three tracks above said highway west of the bridge now spanning said highway, and have agreed as to the alterations which shall be made;

Now, therefore, In pursuance of the provisions of the Acts of 1906, chapter 463, part I, section 41, and acts in amendment thereof and in addition thereto, this agreement in writing is made and signed in behalf of said city by the mayor thereunto duly authorized by the board of aldermen, and in behalf of said railroad company by its president thereunto duly authorized by the directors, specifying the manner and limits within which the alteration shall be made, by whom the work shall be done, the method of construction, and how the cost shall be borne.

Alterations.

The right of way or location of said railroad company where it crosses York street shall be altered by widening the same a distance of thirty-nine and sixty-seven hundredths (39.67) feet running westerly from the westerly line of said right of way or location. The grade of that portion of York street included within said widening shall remain as at present, and no alteration shall be made in the approaches to said crossing on either side.

The westernmost of the existing four tracks of the railroad company shall be moved a distance of approximately ten (10) feet westerly from its present location, and shall be carried above said York street on a frame bent trestle with bents spaced to give twelve (12) feet openings. The center of one of the openings shall correspond with the center of that portion of the present highway which passes between the abutments of the existing bridge. The headroom from the surface of the street to the lowest portion of said structure shall be not less than the headroom of the present bridge.

At a distance of thirteen (13) feet on centers westerly from the last described frame bent trestle a track shall be carried above said York street by another frame bent trestle of the same description and specifications as that already mentioned, including the location of the opening, the center of which shall correspond with the center of the existing bridge.

At a distance of thirteen (13) feet on centers westerly from the last described frame bent trestle a track shall be carried above said York street by another frame bent trestle of the same description and speci-

fications as those already mentioned, including the location of the opening, the center of which shall correspond with the center of the existing bridge.

Plan.

The alteration hereinbefore described is shown upon a plan herewith and made a part hereof entitled "N. Y., N. H. & H. R.R., Hartford Division. Alteration of York street crossing, Springfield, Mass., May 9, 1918."

Performance of the Work.

The New York, New Haven and Hartford Railroad Company shall furnish all the material and do all the work necessary to accomplish the above described alteration.

Apportionment of Expense.

The total cost of the alteration as aforesaid, including the cost of any necessary hearings, the expense of the Public Service Commission and its necessary agents, and all damages, shall be paid by the New York, New Haven and Hartford Railroad Company.

Signed in behalf of the city of Springfield by its mayor thereunto duly authorized and in behalf of the New York, New Haven and Hartford Railroad Company by its president thereunto duly authorized.

CITY OF SPRINGFIELD,

By FRANK E. STACY,
Mayor.

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY,

By E. G. BUCKLAND,
President.

It is

Ordered, That the approval of the Commission be hereby given to the agreement and to the alterations therein set forth, as necessary for the convenience and security of the public.

Attest: ANDREW A. HIGHLANDS,
AUGUST 9, 1918. [P. S. C. 2234] *Secretary.*

Petition of the New York, New Haven and Hartford Railroad Company for approval of agreement for alteration of the crossing of Central street and the railroad in the town of Stoughton.

It appearing, after notice and hearing, that the selectmen of the town of Stoughton and the directors of the New York, New Haven and Hartford Railroad Company and of the Old Colony Railroad Company are of opinion that it is necessary for the

security and convenience of the public that an alteration be made in the crossing of Central street and the Old Colony railroad (New York, New Haven and Hartford Railroad Company, lessee) in the town of Stoughton; that they are agreed upon the character of the alteration to be made, and that an instrument in writing specifying the manner and limits within which said alteration shall be made, the party by whom the work shall be done, the general method of construction and the apportionment of cost, has been duly executed by the chairman of the selectmen of Stoughton and by the presidents of the New York, New Haven and Hartford Railroad Company and the Old Colony Railroad Company, a copy of which agreement is as follows:—

AGREEMENT FOR ALTERATION OF HIGHWAY KNOWN AS CENTRAL STREET,
WHICH CROSSES THE RAILROAD OF THE OLD COLONY RAILROAD
COMPANY IN THE TOWN OF STOUGHTON, MASSACHUSETTS.

Whereas, There is a certain highway known as Central street in the town of Stoughton which crosses the railroad of the Old Colony Railroad Company, leased to and operated by the New York, New Haven and Hartford Railroad Company, above the railroad tracks, and the directors of said railroad companies and the selectmen of said town are of the opinion that it is necessary for the security and convenience of the public that an alteration be made at this time in said crossing which shall permit the raising of the bridge and increasing the headroom over the tracks, and have agreed as to the alterations which shall be made:

Now, therefore, In pursuance of the provisions of the acts of 1905, chapter 463, Part I, section 41, and acts in amendment thereof and in addition thereto, this agreement in writing is made and signed in behalf of said town, by the chairman of the board of selectmen thereunto duly authorized by the selectmen, and in behalf of said railroad companies by their presidents thereunto duly authorized by the directors, respectively, specifying the manner and limits within which the alterations shall be made, by whom the work shall be done, the method of construction, and how the costs shall be borne.

Alterations.

The bridge carrying Central street over the tracks of the railroad company shall be raised one foot three inches (1' 3") so as to afford a clearance of sixteen (16) feet above the rails of the railroad track. The grade of Central street shall be changed and established as follows: Beginning at the easterly end of the bridge over the railroad tracks at the proposed established grade of the street, elevation 269.66 Boston base; thence easterly by a descending grade not to exceed five (5) feet per one hundred (100) feet to meet the present grade of the street at station 0 plus 85, elevation 265.70. Beginning at the westerly end of the bridge

over the railroad tracks at the proposed established grade of the street, elevation 269.66 Boston base; thence westerly by a descending grade not to exceed three and fifty one-hundredths (3.50) feet per one hundred (100) feet to meet the present grade of the street at station 2. elevation 262.43.

The traveled surface of the street within the limits of the alteration shall be graveled with good gravel, to conform to the present surface of the street.

Plan.

The alterations hereinbefore described are shown upon a plan herewith, and made a part hereof, entitled: "N. Y., N. H. & H. R.R. Old Colony Div. Proposed Raising of Bridge 5.21 to obtain 16-0" Clearance No. Stoughton, Mass. Sept. 9, '16."

Performance of the Work.

The New York, New Haven and Hartford Railroad Company shall furnish all the material, and do all the work necessary to complete the above described alteration.

Apportionment of Expense.

The total cost of the alterations as aforesaid, including the cost of any necessary hearings, the expense of the Public Service Commission and its necessary agents, and all damages, shall be paid by the New York, New Haven and Hartford Railroad Company.

Signed in behalf of the town of Stoughton by the chairman of the board of selectmen thereunto duly authorized, and in behalf of the New York, New Haven and Hartford Railroad Company, and of the Old Colony Railroad Company, by their presidents thereunto duly authorized, respectively.

TOWN OF STOUGHTON,

By GEORGE W. PRATT,
Chairman of Selectmen.

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY,

By E. G. BUCKLAND,
President.

OLD COLONY RAILROAD COMPANY,

By FAYETTE S. CURTIS,
President.

At a meeting of the Selectmen held in the Selectmen's room, Town House, Stoughton, Mass., Aug. 28, 1918, it was voted that the Chairman of the Board, Mr. George W. Pratt, be authorized to sign the agreement on behalf of the Town of Stoughton.

JENNIE F. McNAMARA,
Assistant Town Clerk, Stoughton.

It is

Ordered, That the approval of the Commission be hereby given to the agreement and to the alterations therein set forth, as necessary for the security and convenience of the public.

Attest: ANDREW A. HIGHLANDS,
OCTOBER 21, 1918. [P. S. C. 2273] *Secretary.*

EXPRESS TRANSPORTATION.

Petition of the General Transportation Company for recommendation relative to the transportation of express matter on passenger trains of the Boston and Maine railroad between Boston, Salem and Peabody.

Memorandum.

Hearings were held on this petition on November 23, 1916, and March 9, 1917. The petitioner was directed to submit evidence to the effect that the people in the communities served by the petitioner believed that it would be to their interest to have a competitive service among the local express companies; that they found the business of the petitioner more expeditious and satisfactory than the present service; and that it would be in the general public interest of the community that the petitioner be afforded the privilege of operating express service on passenger trains of the Boston and Maine railroad, between Boston, Salem and Peabody. No such evidence has been submitted to the Commission, and the petition is therefore dismissed.

Attest: ANDREW A. HIGHLANDS,
AUGUST 14, 1918. [P. S. C. 1475] Secretary.

INVESTIGATIONS.

COMMUNICATION

To HON. C. A. PROUTY, *Director, Division of Public Service and Accounting, United States Railroad Administration, upon railroad conditions in Massachusetts under Federal Control.*

DEAR SIR:— Under date of July 22, 1918, you wrote this Commission asking for certain information in regard to the physical condition and service of the railroads in Massachusetts under federal control, and in regard to the powers and organization of this Commission. I take pleasure in transmitting herewith answers to these inquiries. The apparent delay has been due to our desire to ascertain, as nearly as we could, the views of the people of the commonwealth in regard to some of these matters.

Our endeavor has been to make the answers comprehensive, but general, in their character. More detailed information, however, is submitted in the attached exhibits and more is at your command if you desire it. You may be assured that this Commission stands ready to do anything in its power to make federal operation of the railroad systems a success.

Yours very truly,

FREDERICK J. MACLEOD,

Chairman.

RAILROAD CONDITIONS IN MASSACHUSETTS UNDER FEDERAL CONTROL.

1. PHYSICAL CONDITION OF THE RAILROADS.

(a) *What is the physical condition of road and equipment at the present time?*

Under date of June 29, 1918, the Inspection Department of the Commission submitted a report upon the condition of the *roadbed and track* of the steam railroads within the commonwealth, a copy of which was sent to you. The department, on

June 11, 1918, also made a special report upon the New London Northern Division of the Central Vermont Railway, of which you were likewise informed. Briefly, these reports showed that the work of renewing ties and rails and resurfacing and aligning track was by no means so far advanced as it should have been at that time of year, and that this was due to the difficulty of securing necessary material and labor, especially the latter. Somewhat better progress had been made on the Boston and Maine and Boston and Albany than on the New York, New Haven and Hartford, and the worst conditions existed on the Central Vermont, where they were rapidly becoming dangerous.

Since these reports were made, some additional labor has been secured and it now seems probable that much of the work of tie and rail renewal will be completed before the winter sets in. Roadbed and track cannot be brought to the same standard of surface, alignment and ditching as if the renewals had been made earlier, but will be safe. The inspectors report, however, that very little progress has been made in improving conditions upon the Central Vermont, and the work is still badly delayed upon the New Haven. A special report upon the Central Vermont situation, supplementary to the one dated June 11, 1918, is submitted herewith as an exhibit marked A.

Bridges have been the subject of special consideration by the Inspection Department, and it became necessary recently to bring to the attention of the management the condition of certain of these structures in Massachusetts upon the Boston and Maine system. A number of the Boston and Maine bridges are old, and some of them are of poor design, lack of margin of safety that good engineering practice demands, and are unsuited to modern operating conditions. Various expedients, however, have been adopted to insure safety until such time as renewals can be made, and this subject is now receiving further consideration by our Engineering and Inspection departments and the officials of the road. The Commission has been assisted in this matter by Professor James M. Barker of the Massachusetts Institute of Technology.

The inspectors report that the physical condition of stations and other *buildings* is not satisfactory. It does not appear that public safety is endangered, but conditions with respect to cleanliness and general maintenance are not what they should be nor fully up to the standards of the past. This seems to be due, chiefly, to shortage of competent labor.

Our inspector of railroad *equipment* reports as follows, under date of August 13, 1918: —

From 1914 until the railroads were taken under federal control, the freight and passenger equipment was in general poor condition on account of the inability of procuring necessary labor and material for its maintenance. Since the Government assumed control to the present time, no appreciable improvement is noted, for the same reason as stated above.

A very large number of freight cars, particularly on the Boston and Maine railroad, are of the wooden underframe type, and on account of their age and general condition, are almost continually out of service for repairs. All wooden underframe freight cars should be withdrawn from service and cars with steel underframes substituted. Proper tools and appliances should be provided at the shops to make repairs to this class of equipment.

A large number of passenger cars still in service are of the old wooden underframe type; these should be replaced by cars with steel underframes.

It is my opinion that for the proper maintenance of freight and passenger cars, additional facilities, material and men should be provided.

This report is confirmed by complaints which we have received from patrons. Standards of cleanliness and repairs seem to be relatively low, so far as the comfort and convenience of passengers are concerned; but it does not appear that public safety is being endangered. Attention is directed to the statement of our inspector that the Boston and Maine shops are not equipped with proper tools and appliances for the repair of steel equipment.

Our inspector of *locomotives* reports that the condition of railroad engines operating within the commonwealth has been unsatisfactory in recent years. The cause, he believes, has been a "shortage of material and labor, and the working of general repair shops in 1914 and 1915 on short time." There have been, in his opinion, no great improvements since the establishment of federal control. He states, however, that the "locomotives in this state at the present time are in better condition than in 1914-1915, but are not as yet up to a satisfactory standard," and further expressed the view that "too much general shop work is being done at roundhouses; therefore necessary running repairs are being neglected."

(b) *Had the property been properly maintained for the three years previous to the beginning of federal control? If not, in what particular had it been allowed to deteriorate?*

In answering this question it should be borne in mind that we are dealing only with the property located in Massachusetts and not with the systems as a whole. Difficulty is encountered because of doubt as to the interpretation of the word "properly." From one point of view proper maintenance would involve the replacing of inadequate and obsolete, as well as worn-out, property, and the constant preservation of the roads in first-class, modern condition for the rendering of service of maximum efficiency. The last part of your question, however, in which you use the word "deteriorate," leads us to believe that you do not have in mind so high a standard, but rather the maintenance of the properties in safe and reasonably good operating condition. The answer to your first question furnishes some indication of the situation in this respect. Taking the systems separately:—

Boston and Albany.— This property, in recent years, has been maintained in better operating condition than any other road in Massachusetts. Our Inspection Department reports that, previous to 1916, roadbed and track were very satisfactorily maintained. Since that time "the former high standards have been rapidly depreciating." This has been manifested chiefly by delay in track work and consequent impairment of surface, alignment, ditching, etc. The cause has been shortage of labor, due to the inability of the companies to pay as high wages as other employers. These unsatisfactory conditions have been more marked in 1918, but existed in 1917. In 1907 this company began the installation of rock ballast and for several years continued to ballast with rock from 30 to 35 miles of track annually, so that it is now far ahead of any other road in Massachusetts in this respect. This work, however, ceased in 1916 and has not since been resumed. The shortage of labor, beginning with 1917, has also had its effect upon the maintenance of rolling stock and buildings. The standard has fallen somewhat.

New York, New Haven and Hartford.— Conditions on this property have been very similar. The Inspection Department reports that in 1916 only about 85 per cent of the allotment of men were obtainable for track work, in 1917 but 65 per cent, and in 1918 a still lower percentage. Not so much progress has been made in 1918 as on either the Boston and Maine or the Boston and Albany. The property has been kept safe and in fair operating condition, but the maintenance has been below first-class standards.

Boston and Maine.— The standards of this company have, in the past, been below those of the New Haven and Boston and Albany. Comparatively speaking, there has been improvement during the past three years. The Inspection Department reports: "It was the policy of this company for several years, when the fiscal year ended with June 30, to postpone until after this date making annual repairs on the property. This method

has now been changed and a more satisfactory condition exists on this system." Track work this year is further advanced than in the case of any of the other companies. Like the others, however, much which should have been done during the three years it has not been possible to do, and this applies to rolling stock, buildings and bridges, as well as to roadbed and track.

Central Vermont. — The property of this company in Massachusetts, which consists of one line running north and south through the central portion of the state, has been inadequately maintained during the period in question. Resulting conditions were described in detail in the special report of the Inspection Department, dated June 11, 1918.

Summarizing, the standard of maintenance on Massachusetts railroads has been somewhat low. By new construction work, however, as distinguished from maintenance, considerable has been done, during the three years in question, to increase operating efficiency, notwithstanding serious financial difficulties. This has been true of the New Haven especially, which has made notable improvements in side track, yard and terminal facilities, not only in this state, but in its other territory. To a lesser extent it has been true of the Boston and Maine. The Boston and Albany had previously been brought to a high state of operating efficiency. The highest property standards have been reached by this road, the New Haven ranking next.

Improvements have also been made in rolling stock. Steel passenger cars have been introduced extensively on the through routes of the New Haven and Boston and Albany roads and, in some degree, on the Boston and Maine, but are not used for local service within the commonwealth. Important additions to coal-carrying equipment have recently been made, and a substantial number of large, modern engines have been installed. Our inspector reports that the number of new locomotives installed "since 1915, up to and including 1918," for use in Massachusetts has been as follows: —

COMPANY.	Number.
Boston and Albany,	27
Boston and Maine,	61
New York, New Haven and Hartford,	101
Total,	189

The extent to which old passenger equipment in poor condition has been retired from service is indicated by the following extract from a report of the Chief of the Inspection Department under date of August 16, 1916:—

The New York, New Haven and Hartford Railroad Company operates about 1,000 cars in local passenger train service in this commonwealth, all of which are of the wooden type. Of this number about 500 are in good condition. About 250 of the total number should be put in good condition. The remaining 250 have been in service from 29 to 40 years, and are in generally poor condition. Recently the company retired 25 of these cars and, following a joint inspection made by a member of this Department and a representative of the railroad company, I have the assurance of the management that 169 more "will be taken from and kept out of passenger train service."

Similar retirements on a smaller scale have been made by the other roads.

We are informed, also, that the New England carriers have recently been handicapped in maintaining equipment by the fact that, under federal control, they are called upon to repair foreign freight cars to a greater extent than hitherto.

(c) Is the Government properly maintaining the property now? If not, what, in your opinion, should be done?

This question should be answered, we assume, in the light of prevailing conditions. The deficiencies in present standards of maintenance have already been indicated, as well as the apparent causes. In the report of our Inspection Department, dated June 29, 1918, it was stated that if the unsatisfactory track conditions were allowed to continue they would "result in lengthening the running time of many trains to insure their smooth and safe operation," and the importance of maintaining efficiency and reliability of railroad service at the present time was emphasized. The effect of lowered standards of maintenance is cumulative, and there is no department of railroad work to which the adage, "a stitch in time saves nine," better applies. The department suggested that conditions might be improved by classifying track men as skilled workmen and paying them a rate of wages commensurate with their employment. Steps in this direction have recently been taken, and we are informed that the Massachusetts roads have found it possible to enlarge their track forces somewhat because of this change. If this fails to meet the needs of the situation, we have no further suggestions to make except to say that proper maintenance of the through

lines of communication is so important that, if the labor shortage continues, the Government must either make further increases in wages or take other steps to draw the necessary forces from other lines of industry.

During the war, of course, available resources must be concentrated upon the efficient movement of troops, munitions and necessary freight, and it is to be expected that improvements which have a less direct relation to this matter may not be undertaken, and that some laxity may be inevitable in the maintenance of passenger equipment and buildings. When more normal conditions return, proper track maintenance should include the improvement of ballast. The Boston and Albany has made good progress in this direction, but the other roads are far behind. The New Haven has only 40 miles of rock-ballasted track in this state and the amount on the Boston and Maine is insignificant. Our Inspection Department has the following to say upon this subject:—

The railroads are lacking both in quantity and quality of ballast to keep the tracks in good surface and alignment. Only a small portion of the main line tracks have in recent years received new ballast. Much of the gravel and sand ballast now in use has become so badly worn and mixed with cinders that it puddles when wet and pumps from under the track when dry. Good gravel pits along the lines of railroads are becoming very scarce, but rocks, from which rock ballast may be made, are plentiful. Now that the weights of locomotives, cars and loads have been greatly increased, in my opinion, on lines where traffic is heavy and especially in wet cuts where drainage is poor, it would be economy to replace gravel ballast with rock ballast as rapidly as conditions will permit.

Proper maintenance, also, ought to include, in normal times, higher standards relative to passenger cars and stations, as a whole, than now prevail, or, indeed, have ordinarily prevailed in the past. Public management of the road should be distinguished by its regard for the comfort and convenience of passengers. Cars and buildings ought to be kept clean, well-painted and attractive. Public service corporations in this section of the country have often failed to appreciate, to the same extent as business concerns in competitive industry, the importance of such practice. In our judgment, there is nothing that will win greater public appreciation.

(d) *What additions or betterments should be made to the property?*

For the present, we believe that the Government is pursuing the right policy in concentrating upon the additions or betterments which are related directly to the more efficient and eco-

nomical handling of freight, — such work as the improvement of yards and junction points, the laying of third track or additional sidetracks, the construction of new or improved engine houses and terminal facilities, the replacing of the older and weaker bridges and the like. Looking forward into the future, there is, of course, much more that ought to be done. Electrification, accompanied by the reconstruction and improvement of the passenger and terminal facilities in Boston, further modernizing of passenger equipment, extension of block signal systems, the further elimination of grade crossings, are all projects which ought ultimately, in the not too remote future, to be undertaken. Some of the antiquated conditions which exist upon railroads which operate in Massachusetts may be illustrated by the fact that on January 21, 1916, a report of our Inspection Department showed that the Boston and Maine railroad had 590 coaches which were still equipped only with kerosene lights. The situation is substantially the same at the present time.

2. PASSENGER AND FREIGHT SERVICE.

(a) *Certain passenger trains have been taken off. Has that in your opinion unduly incommoded the public? Having reference to present conditions, should any of these trains be restored? If times were normal, but the roads were operated under a single management, as they are now, ought any of these trains to be put back?*

(b) *Is the passenger service upon the trains which are operated satisfactory? Are the accommodations adequate? Are the trains operated on time?*

These two questions may be answered together. In order that it might furnish as definite information as possible, the Commission, immediately upon their receipt, issued a notice to the press embodying the above inquiries and the inquiry relative to freight service, with a view to securing some general expression of public opinion. Special communications were also sent to every city and town government and to the commercial organizations of the state. In addition, our Inspection Department was directed to report upon the matter.

The response to the press notice was negligible and, while a more general response was made by city and town governments and commercial organizations, the number of replies was not large, many towns, and even some cities, being unrepresented. Public attention is concentrated upon the war, and inconveniences and even hardships are very generally accepted with patience and regarded as probably inevitable. This view was

reflected, not only in failure to answer, but in the replies which were made.

Reduction of passenger service is not a new thing in Massachusetts. In 1914 material reductions were made, the effect being shown by the following table of passenger train mileage operated in 1916 compared with the mileage operated in 1913: —

COMPANY.	1913.	1916.
Boston and Albany,	4,285,387	3,900,475
Boston and Maine,	12,311,748	11,243,635
New York, New Haven and Hartford,	16,753,623	15,157,555

In July, 1917, upon recommendation of the so-called "Railroads' War Board," further extensive reductions were made. It was proposed, at first, to eliminate 2,300,000 train miles annually on the Boston and Maine, 1,700,000 on the New Haven and about 280,000 on the Boston and Albany, but, as a result of complaints and conferences with representatives of the Commission, various modifications were made and the actual reductions were somewhat less than originally planned. Early in 1918 still other trains were taken off, the reductions being estimated by the roads, on a yearly basis, as follows: —

COMPANY.	Passenger Train Miles.
Boston and Albany,	136,082
Boston and Maine,	724,500
New York, New Haven and Hartford,	1,100,000

The reductions in 1917 were investigated by the Commission before they became effective, and in the memorandum issued under date of June 13, 1917, it was stated that "the companies have apparently endeavored to exercise a reasonable discrimination in the selection of trains which might best be eliminated, if any reductions are to be made in the present passenger train service. They have professed a desire not to interfere with the movement of labor in morning and evening rush hours and to discontinue in general only trains that are now accommodating comparatively few passengers." No similar opportunity to consider the reductions in service in advance was afforded at the time of the changes in 1918, except in the case of the New Haven road.

The replies received from city and town governments and from commercial organizations in answer to our circular letter have been tabulated on large sheets for convenient reference, and copies of these are submitted herewith as an exhibit (marked B) accompanying this report. Similar copies have been sent to Mr. James H. Hustis, New England District Director, and our Inspection Department has been instructed to investigate the specific complaints and endeavor to secure an adjustment where reasonable need appears. Some of the complaints are now pending before the Commission under formal petitions.

The Commission has had great difficulty in dealing with service questions since the war began, because of inability to apply former standards and fear of interfering in the very desirable movement for the conservation of labor and fuel. The replies which we have received are very evidently influenced by the same feeling. The consensus of opinion seems to be that the public has not been unduly incommoded by the taking off of passenger trains. In a comparatively few cases it is urged that additional service would be of great public convenience and should be furnished even under present conditions, but this is not the general view. On the other hand, the opinion is prevalent that much of the discontinued service should be restored upon the return of normal times, whether or not the roads are operated under a single management, but the replies, as a rule, are not specific and reflect a disposition to postpone the settlement of this question and to await developments.

The views expressed by our inspectors are similar. Their reports are submitted herewith as an exhibit (marked C). Particular attention is directed to the suggestions relative to the operation of joint facilities at Worcester, including the union passenger station. Trains are now being operated on time quite as well as under private management, although conditions in this respect were bad last winter, owing to the severe weather conditions. The reduction of service has made overcrowding of trains more frequent than heretofore, but seating accommodations in general are adequate. Our inspectors mention the effect upon service of the constantly growing parcel post and express business. This has rendered station facilities inadequate, in some cases, and has lengthened running time. Quoting from one of the reports: —

The schedule time, however, in many cases has been lengthened on account of the reduction in passenger service, for the purpose of making

connections and for the handling of parcel post and express matter. This kind of service is not satisfactory, and is in some cases unnecessary. Passenger trains which are held for first-class mail connections should not be further delayed by the parcel post and express business.

The general situation may, in our judgment, be summarized as follows: —

(1) The situation which has existed in many other parts of the country, where separate companies have had parallel routes between important centers — such as Chicago and St. Louis — operating rival and competing trains, has not existed for many years in New England. Consolidations have practically eliminated duplication and competition in passenger service, and federal control has not changed the situation in this respect.

(2) Beyond the introduction of steel equipment and electric lighting on the through routes and the installation of block signals in the interest of safety, there has been no substantial improvement in passenger service in Massachusetts for many years. On the whole, not only more frequent but faster service was provided twenty years or more ago, and the character of the equipment has not changed greatly in the local service.

(3) The reductions in service, which began in 1914 but have been made chiefly in the past two years, have apparently not reduced traffic but merely concentrated it. Longer trains have been necessary and, in not a few cases, heavier engines. Labor and fuel have been saved, but by no means in proportion to the reduction in train mileage. This was demonstrated by statistics furnished to the Commission by the companies after the reduction in 1917.

(4) The change has had a tendency to make the older and lighter engines obsolete and to increase the demand for new and heavier locomotives. It has also made it more difficult to keep trains on time, an effect particularly noticeable in the winter, and under bad weather conditions, and intensified by the increase in parcel post and express business. It has had the further effect of making overcrowding more frequent. While we believe that the roads try to provide enough cars, standing passengers are more common than in the past.

(5) The change has also resulted in less express service and lengthened running times. It has been necessary, for example, to add stops on many trains which formerly ran express from Boston to cities twenty miles or more distant. Running times have also been lengthened by the fact that longer trains and the increased parcel post and express business require longer station stops.

(6) Following their announced policy, the roads have, we believe, maintained adequate service for the movement of labor in the morning and evening to and from the cities; and a fairly satisfactory local service has been furnished to and from the communities constituting the Greater

Boston district. The *smaller communities* outside this zone are the ones which have suffered most, especially when located off the main routes of travel. A principle laid down by the Railroad Commission of Massachusetts many years ago, and endorsed frequently thereafter, was that reasonable and adequate passenger service included the operation of many trains which did not in themselves pay, but were essential to the welfare of the communities which the carriers had undertaken to serve. In the recent reductions of service lightly loaded trains have, in general, been discontinued, and many of the smaller communities have been left with very few facilities for even necessary traveling. It is a handicap which is particularly felt in the winter months and seems likely to interfere seriously with the wholesome policy of suburban living which has had widespread growth in Massachusetts under the encouraging conditions fostered by its railroads through cheap monthly commutation rates.

It seems clear that no advance program of what would constitute proper service upon the return of normal times can now be definitely formulated. If electrification were undertaken and local service operated without engines upon the multiple-unit plan, it would probably be desirable, from the point of view of both accommodations and economy, to reduce peak loads and spread traffic as much as possible by the operation of comparatively short trains on frequent headway. Directing attention to present war-time needs, the service, as above suggested, may be divided into two parts: main line accommodations, by which the larger cities or centers are served, and intermediate main line and branch service, affecting the smaller towns and communities outside the immediate vicinity of Boston.

Suggestions from the larger communities, situated upon the main lines, are directed principally toward the restoration of express trains which have been taken off altogether or consolidated. Adjustments may, in some cases, be made to improve conditions. For instance, the Commission has recently been successful in effecting such an adjustment in the case of service from Boston to Haverhill. In general, however, to restore the trains desired would mean the furnishing of additional equipment, usually of a heavy type, and crews for a service which, although convenient, cannot be considered necessary under prevailing conditions. Every effort should be made, of course, to make the service dependable by operating trains on time, with a sufficient number of cars for necessary seating accommodations. In this connection the increased parcel post and express business presents a difficult problem. So far as feasible, this business should

be handled by special trains, and it now seems that, in some cases, additional station facilities should be provided, even under present conditions.

The communities affected by curtailment of service upon branch lines are especially numerous in Massachusetts, as a glance at a map of the Boston and Maine and New Haven systems will indicate. Upon the return of normal times, additional trains should undoubtedly be operated. In the meantime, reliability of service is of even more importance than in the case of the cities. When trains are late, connections are missed and much of the benefit which should be derived from even the infrequent service rendered is lost. In some instances, also, by a rearrangement of schedules additional service can probably be furnished, without the use of additional crews or equipment, merely by taking advantage of present idle time. Some cases of this kind have been brought to the attention of the roads by this Commission, and we have no doubt that others exist. Operating officials should study this matter carefully.

In general, the roads appear to have been responsive to the need for adequate service for the operatives of munition plants. In the case of the Fore River Shipbuilding plant a special investigation of transportation facilities, including those afforded by the steam roads, was made by members of the Commission's staff. A plan was submitted in detail for operating a through train direct to the plant from Boston, and one also from Brockton, over the branch line from East Braintree. At present the steam passenger service terminates at Quincy, where the workmen transfer to trolleys or jitneys. This plan was not adopted, apparently because it was felt that existing accommodations were adequate, but in our judgment it is feasible and can be made effective, if the need arises, by the expenditure of a comparatively small amount of capital and without interfering with the freight service.

While not related directly to service, a matter affecting the use of railroad tickets has come to the attention of the Commission. A ticket may now be used only within the 48-hour period following its purchase. This causes considerable inconvenience to patrons and results in congestion at ticket offices. It leads to the practice of paying cash fares upon the trains, with the incidental extra work involved in their collection and the issue and redemption of rebate checks. This probably offsets any loss which might result from the misuse of tickets under the more liberal practice in effect for many years.

(c) Is the movement of freight normal to-day? In what respect is it deficient?

Freight service upon the railroads operating in Massachusetts has been decidedly inferior for at least the past three years. Serious congestion has existed and embargoes have been frequent and widespread. The New Haven road has been the worst offender in this respect, perhaps because of the extraordinary development of the munitions business in certain portions of Connecticut, and the Boston and Albany has given by far the best service. The embargoes have undoubtedly caused severe financial loss to New England industries, and have also caused diversion of much business to express companies, producing incidentally, as above indicated, an unfavorable effect upon passenger service.

Upon the whole, it is our opinion that the situation has improved materially since federal control, and the construction work now under way should result in still further improvement. Our inspectors agree that through freight is being handled with better dispatch than formerly, although it has increased in volume. At the same time, in the communications received from municipal authorities and commercial organizations, the complaint is very general that the service is still slow and unreliable, with all the aggravations produced thereby. This seems to be especially true of local shipments of less-than-carload freight, and the outstanding cause, in the judgment of our inspectors, is the shortage of labor at freight houses and transfer points.

Considerable local freight is now moved by motor truck or street railway. Much more would undoubtedly move by trolley if the street railway companies were in a position to supply the necessary equipment. We believe that the authorities at Washington might well give consideration to the lending of government credit to these companies for the purchase of additional freight equipment upon a priority basis. Eastern Massachusetts is covered by a network of trolley lines which often provide direct routes between important centers, where the steam railroad routes are circuitous and transfers are necessary. Days are frequently consumed on such routes in moving freight a comparatively short distance. Clearly the employment of freight cars in such service is wasteful and opposed to all standards of war-time conservation. If the trolley lines were able to provide the needed service by the direct routes, much steam equipment could be released for service where it can be used more economically and efficiently.

Our inspectors have also felt that the effort to load engines to full tonnage capacity, while in general to be commended, has in some cases been carried too far, particularly upon the Boston and Maine and New Haven roads. If some margin is not allowed, trains are apt to be stalled, especially in bad weather, and less efficiency is secured than if the loads were lighter. It is a question of time versus tonnage. There now seems to be less reason for criticism, however, than existed some months ago. The practice of the Boston and Albany in this respect seems to have been better considered than that of the other roads.

3. POWERS OF THE COMMISSION.

(a) Power over rates. How are state rates established and changed? Must they be filed with your Commission?

Under the statutes this Commission has very full powers over intrastate rates. They must be filed, following the Interstate Commerce Commission practice in this respect, and cannot be changed except upon thirty days' notice, unless the Commission otherwise orders. The Commission can suspend changes for ten months after the effective date and has power, after hearing had upon its own motion or complaint, to determine the just and reasonable rates, fares and charges for the service to be performed, and to fix the same by order. Section 22 of the Public Service Commission Act (chapter 784 of the Acts of 1913) is as follows: —

SECTION 22. Whenever the commission shall be of opinion, after a hearing had upon its own motion or upon complaint, that the rates, fares or charges or any of them demanded, exacted, charged or collected by any common carrier now or hereafter subject to its jurisdiction, for any services to be performed within the commonwealth, or the regulations or practices of such common carrier affecting such rates, are unjust, unreasonable, unjustly discriminatory or unduly preferential or in any wise in violation of any provision of law, or that the rates, fares or charges or any of them chargeable by any such common carrier are insufficient to yield reasonable compensation for the service rendered and are unjust and unreasonable, the commission shall determine the just and reasonable rates, fares and charges to be charged for the service to be performed, and shall fix the same by order to be served upon every common carrier by whom such rates, fares and charges or any of them are thereafter to be observed. It shall be the duty of every such common carrier to observe and obey every requirement of every such order so served upon it, and to do everything necessary or proper in order to secure absolute compliance with and observance of every such order by all its officers, agents and employees. The commission may, after investigation, authorize a common

carrier in special cases to charge less for longer than for shorter distances for the transportation of passengers or property, whenever in the opinion of the commission such authorization is consistent with the public interests, and the commission may from time to time modify or revoke such authorization.

The Commission has similar authority to require the establishment of through routes and joint rates and the installation of switch connections.

(b) *Power over physical plant. To what extent can you direct as to the maintenance or extension of the property?*

(c) *What authority have you over operation?*

These two questions may be considered together. The general authority of the Commission over operation and service is conferred by section 23 of chapter 784 of the Acts of 1913, as amended by chapter 244 of the Acts of 1916, as follows: —

SECTION 23. Whenever the commission shall be of opinion, after a hearing had upon its own motion or upon complaint, that the regulations, practices, equipment, appliances or service of any common carrier, now or hereafter subject to its jurisdiction, are unjust, unreasonable, unsafe, improper or inadequate, the commission shall determine the just, reasonable, safe, adequate and proper regulations and practices, thereafter to be in force and to be observed, and the equipment appliances and service thereafter to be used and shall fix and prescribe the same by order to be served upon every common carrier to be bound thereby. The commission shall have power after such a hearing, to order any street railway company to build and operate any just and reasonable extensions of its lines for which it may have or may be granted locations and to order from time to time that a railroad company shall operate its lines, of standard gauge, or such parts thereof as the commission shall prescribe, by electric power instead of by steam power, and in its order shall prescribe the time within which the work of electrification shall be done. Before making such order, the commission shall consider the relative importance and necessity of the changes in any specific regulations, practices, equipment and appliances proposed to be included therein and of other changes which may be brought to its attention in the course of the hearing, the financial ability of the carrier to comply with the requirements of the order, and the effect of the carrier's compliance therewith, upon its financial ability to make such other changes, if any, as may be deemed by the commission of equal or greater importance and necessity in the performance of the service which the carrier has professed to render to the public. It shall be the duty of every such common carrier to observe and obey every requirement of every such order so served upon it, and to do every thing necessary or proper in order to secure absolute compliance with and observance of every such order by all its officers, agents and employees.

It will be noted that there may be doubt as to the authority of the Commission to require steam railroad companies, as distinguished from street railway companies, to build and operate extensions of their lines, and that the authority to require electrification, or other similar changes, is limited in a somewhat unusual way. Special statutes, also, give the Commission special authority over safety appliances, track construction, signals and the like. Under the old Railroad Commission law, which is still in force, the Commission has the following general power (section 9, Part I, chapter 463, Acts of 1906):—

SECTION 9. If the board is of opinion that repairs are necessary upon any railroad or railway, or that an addition to its rolling stock, or an addition to or change or relocation of its stations or station houses or waiting rooms, or a change in its rates of fare for transporting freight or passengers, or in the mode of operating its railroad or railway and conducting its business, is reasonable and expedient in order to promote the security, convenience and accommodation of the public, it shall in writing inform the corporation or company of the improvements and changes which it recommends should be made.

Section 13 of the same act requires carriers to “furnish to the board any information which may be requested by it relative to the condition, management and operation of the railroad or railway,” and section 5 directs the board to include in its annual report to the General Court “such statements, facts and explanations as will disclose the actual working of the system of railroad and railway transportation in its bearing upon the business and prosperity of the commonwealth, such suggestions as to its general railroad and railway policy, or any part thereof, or the condition, affairs or conduct of any railroad corporation or street railway company, as may seem to it appropriate,” etc.

(d) *Kindly state your organization, the number of persons employed and their various duties.*

The plan of organization of the Commission was stated in its 1916 annual report, as follows:—

The Inspection Department is in charge of George W. Bishop. Besides Mr. Bishop there are nine inspectors and four assistant inspectors. The duties of the department are varied and numerous. Primarily, its business is to keep informed as to the physical condition of the railroads and railways and to take such steps as are necessary to enforce the specific requirements of the statutes relative thereto and to protect the public safety in general. An allied duty is the investigation of all fatal and serious accidents and of all accidents caused by defective track or equip-

ment or involving collisions of trains or cars, whether serious or not. Since the proper inspection of railroad bridges requires special technical knowledge, this work falls within the province of the Engineering Department and has for many years been delegated to an engineer specially employed for the purpose. More recently his duties have been extended to cover street railway bridges and the signal systems on both steam and electric roads, and a second engineer has been employed to assist him. The present bridge and signal engineer is Prof. Lewis E. Moore, formerly of the Massachusetts Institute of Technology.

The inspectors are all men who have had extensive practical experience in railroad or railway operation, for the most part in responsible positions. Some of them are also trained civil engineers. Of the number, four inspectors and two assistants are assigned solely to steam railroad work; three inspectors and one assistant, solely to street railway work; and two inspectors and one assistant, to both railroad and railway work. Of those who have railroad work alone, one inspector and one assistant are assigned to locomotives and one inspector and one assistant to passenger and freight cars.

The work of the department, however, is not confined to routine inspection work and accident investigations. Informal complaints as to service or accommodations are investigated and adjusted, often without the necessity of action by the Commission. In the more important and formal cases, the inspectors are frequently used in making special traffic studies and investigations, and they assist, also, in valuation work. Many of them are competent to pass upon unit prices and costs of carrier property.

The work of the Engineering Department, other than the supervision of bridges and signals, which has already been referred to, is in charge of Henry W. Hayes. He has one assistant engineer, appointed during the current year. This department has important duties in capitalization cases. Whenever a company seeks approval of an issue of stock or bonds to cover the cost of work done or to be done, it submits a schedule of the work in great detail and this is thoroughly investigated by the Accounting and Engineering departments. Accounts, vouchers and contracts are examined; the property in question is inspected; the amount of actual additions or betterments, as distinguished from replacements, is determined; and reasonable costs are ascertained. Prolonged and laborious investigation is often necessary. Besides this, the Engineering Department, aided by inspectors, is frequently used in making inventories, appraisals and valuations. It also examines and passes upon engineering plans submitted by the companies, and at times prepares plans of its own, having to do with the rapid transit system in Boston, with the abolition of grade crossings, and with other similar railroad or railway work.

The Rate and Tariff Department is in charge of C. Peter Clark. It is the repository of the numerous printed schedules of rates and charges which the carriers are required by law to file with the Commission. Many

thousands of such schedules are now in its files. It is the duty of this department to examine and docket these schedules, or tariffs, to make sure that they are in proper form, and to notify the Commission and the public when any important changes in rates are proposed. At the time when the department was established, many of the companies under the supervision of the Commission were not in the habit of preparing such schedules and educational work was necessary to bring order out of chaos and reduce their rates and charges to definite and classified form. This work has not yet been completed, but notable progress has been made. The department is at the service of shippers and others who desire information in regard to tariffs, and many informal complaints as to rates are investigated and adjusted by Mr. Clark without formal action by the Commission. The department is also used in securing data and statistics desired in the consideration of the more important rate cases.

The Accounting Department is in charge of Justin W. Lester, and under him are two assistant accountants. The work of this department in capitalization cases has already been described. This is but a part of its work. An important duty is to secure annual returns in proper form from all the companies under the Commission's supervision and see to it that the companies keep their books and accounts in the manner prescribed. Recent investigations have shown that the accounting methods have, in a number of cases, been careless and inadequate and that there is much to be done to correct such conditions. The department also prepares the statistics which are published in the annual report and many additional statistics which are required from time to time by the Commission, in connection with pending matters. Frequently, in rate cases and similar proceedings, it is called upon to make special examinations of books and accounts. It is gradually accumulating a mass of data in regard to company equipment, contracts, construction work, and costs in general, which promises to be of great value in future work.

The Telephone and Telegraph Department is in charge of William H. O'Brien. Under him are two assistants, both of whom have had extensive practical experience in telephony. The investigation of all telephone and telegraph matters is primarily in the hands of this department. In this field it combines many of the functions exercised by the Inspection, Engineering, and Rate and Tariff departments in the case of transportation companies. It is the repository of the telephone and telegraph rate schedules; it collects and prepares data and statistics; it conducts special investigations of facilities and service, either upon its own initiative or upon complaint or by direction of the Commission. In particular, it investigates and adjusts many minor complaints and is prepared even to receive and act, without loss of time, upon complaints brought to its attention by telephone message.

The secretaries of the Commission have charge of the records, correspondence, accounts, publications and much of the routine work. One of them also has charge of the library, which already contains a collection of

the reports of other commissions throughout the country and of special works dealing with transportation and allied questions. It is the purpose of the Commission to develop this library further on specialized lines. It is always open for public use.

Unlike the Interstate Commerce Commission and the commissions of several other states, the Commission has no Legal Department. The strictly legal questions which arise in the course of its work are numerous and difficult and have to do with a field of the law in which few attorneys, outside the employ of the utility companies, have specialized knowledge. A Legal Department would simplify and accelerate the disposition of the questions of law with which the Commission has to deal, and would enable it, in important cases, more nearly to separate the functions of judge and public attorney, which it now combines, and to delegate much of the probing work of inquiry and investigation to counsel. Although the statutes give the Commission the right to call upon the Attorney-General for advice, his department has a great variety and increasing number of onerous duties in connection with all branches of the State's work. The employment of regular counsel is authorized and contemplated by the Public Service Commission Act. While, in the interest of economy of administration, no present recommendation is made, the Commission hopes that financial provision for such a department may be found practicable in the near future.

The situation has remained substantially unchanged since this was written. Prof. Lewis E. Moore, who was bridge and signal engineer at that time, is now in France in the army service, and Prof. James M. Barker, of the Massachusetts Institute of Technology, is advising the Commission upon these matters. A vacancy exists in the office of assistant inspector of locomotive equipment. One additional inspector has been employed in the Telephone and Telegraph Department.

SEPTEMBER 19, 1918. [P. S. C. 2235]

Investigation of physical conditions on the railroads in Massachusetts.

JUNE 29, 1918.

Public Service Commission, Hon. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN: — I beg to submit the following report concerning the steam railroads over which the Commission has supervision: —

On Thursday, June 20, 1918, I completed my twenty-second consecutive annual inspection of steam railroads in Massachu-

setts. The practice of making annual inspections was established by the Board of Railroad Commissioners as early as the year 1870, and has been continued up to the present time. The Commission's purpose in making these inspections is to keep itself informed as to the condition of the railroads, the manner in which they are operated with respect to the security and accommodation of the public and the compliance of the management with the laws of this Commonwealth.

The condition of roadbed and track on steam railroads, as found during the annual inspection made for the years 1916 and 1917, shows no improvement over preceding years and, so far as any change in condition is noticeable, it is in the way of depreciation. While the recent inspection has not disclosed conditions which may be considered unsafe at this time, I am of the opinion that if such conditions are allowed to continue they will result in lengthening the running time of many trains to insure their smooth and safe operation.

The department of maintenance of way is one of the most important in railroad organizations, and yet it is one that seldom receives public attention and too infrequently has the serious attention of the management of such companies. It is usually one of the first in which reductions are made whenever the wave of economy approaches. It is a department on which much depends with respect to the safe operation of trains and to economy in maintenance of equipment.

To obtain the most economical and satisfactory results, the annual renewal of ties and rails should begin as early in the spring as weather conditions will permit, and, if possible, be completed not later than July 1. This will, before winter sets in, result in securing a solid foundation for all new ties placed in the track and those re-spaced, and provide a proper support to the rails. It will also produce smoother riding track throughout the year and greatly relieve the traveling public from the nuisance of dust and dirt which is occasioned by unnecessarily disturbing the roadbed during July and August when travel upon railroads is usually greater than at any other period during the year. It is not economy to purchase new equipment and operate it over poor roadbed and rough track. It will result in a necessity for premature repairs. It is, no doubt, more economical to maintain smooth track and keep the equipment in use rather than in the repair shops.

If there was ever a situation to which the adage "a stitch in

time saves nine" applied, it is here. The railroads are lacking both in quantity and quality of ballast to keep the tracks in good surface and alignment. Only a small portion of the main line tracks have in recent years received new ballast. Much of the gravel and sand ballast now in use has become so badly worn and mixed with cinders that it puddles when wet and pumps from under the track when dry. Good gravel pits along the lines of railroads are becoming very scarce, but rocks, from which rock ballast may be made, are plentiful. Now that the weights of locomotives, cars and loads have been greatly increased, in my opinion, on lines where traffic is heavy and especially in wet cuts where drainage is poor, it would be economy to replace gravel ballast with rock ballast as rapidly as conditions will permit. Thus far, this report has been of a general nature and, as conditions vary on the several roads, I now desire to show how they are affected by the present practices.

BOSTON AND ALBANY RAILROAD.

Previous to 1916 the roadbed and track of the Boston and Albany railroad had been very satisfactorily maintained. Since that time, owing to a scarcity of men available for such work at the rate of wage paid by the company, the former high standards have been rapidly depreciating. It was the policy of this company for many years to practically complete its tie renewals on or before the middle of July. For the past two years this program has not been carried out and for the present season only about thirty-five per cent of new ties have been installed. The unsatisfactory conditions recently found on this system are not chargeable to a lack of track supplies, but to a lack of the necessary number of men to do the work. This is evidenced by the condition of ties, loose bolts and poor surface and alignment of track. I am informed by the management of this company that during the summer months of 1916 only seventy-five per cent of the allotment of men were available. During the same period of 1917 only fifty-five per cent were available and for 1918, up to the present time, only sixty per cent have been available.

About 1907 this company began the installation of rock ballast and for several years from that time continued to ballast with rock from thirty to thirty-five miles of track annually. It was said to be the intention of the management to continue this work at about the same rate until the main tracks between Boston and Albany and portions of the Highland circuit had been bal-

lasted in this way. However, on account of the lack of men, this work ceased in 1916. It is hoped that arrangements will be made whereby this work may be resumed in the near future.

THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY.

(Lines east of the Connecticut River.)

For many years it has been the policy of this company to have on hand in the early spring an abundance of track supplies with which to begin the summer's work and a liberal number of men have been provided as early as weather conditions permitted to begin and carry forward to completion the necessary repairs to be made during the summer months. The records of the company show that the allotment of cross ties for the territory referred to for the year 1916 was approximately 600,000. Of this number 200,000 were on hand May 16, and of this number approximately 120,000 had been installed in the track. The allotment for 1917 was approximately 640,000, of which about 280,000 were on hand May 16th, and of this number 160,000 had been installed in the track. The allotment for 1918 is about 800,000. Of this number only about 145,000 were on hand May 16, and of this number only about 65,000 had been installed in the track. Where usually the 171 sections in this territory had been supplied with ties for renewals, up to May 17 of this year about 55 of them were without ties. On June 29, 1918, further inquiry showed that 19 sections have not as yet received new ties with which to make renewals and that 121 sections have received less than 50 per cent of their allotment. Consequently, the work has been delayed, as tie renewals should be made before the track can be properly surfaced and put in suitable condition for summer traffic.

The unsatisfactory conditions existing on the New Haven system with reference to track conditions are due to a lack of both men and material. I am informed that for the year 1916 only about 85 per cent of the allotment of men were obtainable for that work at the rate of wage paid by the company; for 1917, 65 per cent of the allotment; for 1918, up to May 17, only 40 per cent of the allotment, and on June 29, only 33 per cent.

While this company has generously installed rock ballast on many of its lines in other states, it has installed in this Commonwealth only about 40 miles of it. It is hoped that this commendable practice in force on other portions of its lines will be adopted

in this state, especially in wet cuts where drainage is poor and on its main line between Hyde Park and the Rhode Island state line where the traffic is very frequent and heavy.

BOSTON AND MAINE RAILROAD.

It was the policy of this company for several years, when the fiscal year ended with June 30, to postpone until after this date making annual repairs on the property. This method resulted in low maintenance of track. This practice has now been changed and a more satisfactory condition exists on this system. This company has in recent years supplied the necessary number of cross ties for the proper maintenance of its track. The condition of the rails is fair, although the delivery of them at times has been rather slow and unseasonable. Since 1915 there has been a scarcity of men available for track work at the rate of wage paid by the company, and at the present time it has only 70 per cent of its allotment of track men. It has installed only seven miles of rock ballast in Massachusetts. This type of ballast should be extended to many wet cuts where drainage is poor and portions of the system where traffic is heavy like portions of the Fitchburg and Berkshire divisions west of the city of Fitchburg.

BOSTON, REVERE BEACH AND LYNN RAILROAD.

This railroad is being maintained in its usual satisfactory condition.

HOOSAC TUNNEL AND WILMINGTON RAILROAD.

The Hoosac Tunnel and Wilmington railroad is being maintained in fair condition.

CENTRAL VERMONT RAILWAY.

The unsatisfactory condition of the New London Northern division of the Central Vermont railroad, recently inspected, was made the subject of a special report, which has received the attention of the Commission.

If ever there was an occasion when the success and prosperity of the Commonwealth depended on the efficiency and reliability of steam railroad service, it is at the present time. This report shows varying conditions on the several railroads operating in this state. There is one condition, however, common to all of

them. There is a substantial shortage of men for the proper maintenance of these properties. This condition applies to all departments of railroading, especially to the maintenance of way. This department consists of divisions sub-divided into sections varying from one to eight miles in length, reckoned as single track. Each section is provided with a foreman. It is generally conceded that for regular track forces one man should be provided per mile of track (reckoned as single track) for summer work, and one-half that number for winter. In addition to this, floating gangs should be maintained for performing extra work. It is regrettable that these well-established standards have been sadly neglected during the past three years. At the present time only a foreman, or a foreman and one or two track men, are available for certain sections where usually eight or ten men are allotted for summer work. This has been the situation at various periods during the past three years. Such conditions now exist and, if not corrected in the near future, serious consequences are bound to follow.

It is not uncommon to classify track men as common laborers. I do not agree with such a classification. A man qualified to do good track work is worth several novices in the business, and such men may well be classified as skilled workmen and should be paid a rate of wage commensurate with such employment. Now that the railroads have been placed under one management, more uniform methods may easily be adopted.

The report is submitted for the information of the Commission and for such action as it may deem necessary.

Respectfully submitted,

GEORGE W. BISHOP,
Chief of Inspection Department.

[P. S. C. 2079-H]

*Investigation in relation to the condition of locomotive headlights
on railroads in Massachusetts.*

MAY 11, 1918.

Public Service Commission, HON. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN:— The communication of H. H. Wilson, chairman of the Brotherhood of Locomotive Engineers Legislative Board of Massachusetts, in relation to the unsatisfactory condition of headlights on locomotives operated in this commonwealth,

having been referred to me, I beg to submit the following report thereon: —

This matter was called to my attention early in October, 1917, by the inspector of locomotives, and I directed him to make a special examination of headlights and to collect all the data possible relating to the subject. The results obtained in the early part of this investigation were such that I arranged with the proper officials of the principal railroads operating in this commonwealth for a conference at this office, held on November 22, 1917, concerning this matter. At that time I presented to them the situation as I had found it, and received assurances of their full co-operation in improving the condition of headlights, concerning which just complaint had been made. Since that time improvements have been made but they have come slowly. The officials, however, claim that considering the scarcity of both men and material the work has been carried forward as rapidly as possible.

The headlights in use on the Boston and Albany, the New York, New Haven and Hartford and the Boston and Maine railroads are of the kerosene oil type, with the exception of approximately 600 on the latter road, which are of the acetylene gas type. From tests made both by this department and by railroad officials, it is shown that, with an oil headlight in proper condition, under varying circumstances an object the size of a man could be seen by an observer from the cab of the locomotive for a distance of from 295 to 359 feet, and that with an acetylene gas light, used under the same conditions, from 483 feet to 635 feet.

While locomotives operated in this state are usually provided with headlights, there is no statutory requirement for it. For the purpose of securing all the information possible relative to headlights, in use on locomotives in the various states of the Union, the secretary of the Commission sent to every public service or railroad commission the following letter: —

I beg to inquire if your commission has adopted any rules or regulations governing the use of headlights on locomotives operated in your state, and if so, will you please be good enough to send me a copy?.

In response thirty-eight replies were received, with the following results: In twenty states there are no rules or regulations regarding the use of headlights; in five states there are laws, but no rules; and in thirteen states there are either laws or rules which

fix the distance that headlights should reflect light from 450 to 1,100 feet.

In recent years there has been a growing demand by engine-men for a more powerful headlight than the oil lamp which has been in use for so many years. Under an act of Congress approved February 17, 1911, the Interstate Commerce Commission was given supervision over headlights on locomotives engaged in interstate traffic. Following this legislation, various types of headlights were tested by the Interstate Commerce Commission, as well as by certain state commissions, railroad corporations and other interested parties. By an order of the Interstate Commerce Commission issued under date of June 2, 1911, railroad companies were required to install on locomotives used in road service between sunset and sunrise a headlight which afforded sufficient illumination to enable a person in the cab of such locomotive to see, in clear atmosphere, a dark object as large as a man of average size, standing erect, at a distance of 1,000 feet ahead of the locomotive, and such headlight must be maintained in good condition. This order was recently modified, fixing the distance at 800 feet, the new rule to become effective July 1, 1918, and the work of installation to be completed before July 1, 1920.

The principal use of a headlight on a locomotive, however, is for the information of trainmen, yardmen, signalmen, crossing flagmen and other railroad employees and for persons at highway crossings. A type of headlight that will give necessary information may well be considered sufficient. There appears to be a variety of opinion with reference to this subject. It is a matter of record that some engineers claim that the ordinary oil lamp, well maintained, gives a sufficient and adequate light, while others prefer the electric or the acetylene gas headlight. The more intense the light reflected, the greater the opportunity for confusion and danger. In tests made with both electric and acetylene headlights, red lights have been made to appear either white or green at varying distances. The principal reason of complaint in relation to the condition of headlights in use in this commonwealth is not so much as to the type of headlight, but the absence of headlights or the proper maintenance of them.

In many instances, engines have been sent out on their runs without headlights, and in other cases reflectors have been removed and a common oil hand lantern placed in the cage, a condition which is practically equivalent to no light at all.

Trains operated by engines in this condition have met with fatal and serious accidents, which probably would have been prevented by the presence of an ordinary oil headlight in good condition.

Headlights are of very little use with reference to observation of track conditions by enginemen, and as switches and signals on main line tracks and on branch tracks where night trains are operated are provided with lights, they are not needed for the purpose of determining the position of such switches and signals. Advance information of this kind may be of some value to trains moving at a low rate of speed, but is of little value to high-speed trains, which require a distance of one-third to one-half a mile and, under certain conditions, even more braking room, to stop a train.

The records indicate that more than one-third of the tracks in this commonwealth are constructed on curves varying from one degree to six degrees, with occasionally a curve as sharp as twelve degrees. Attached hereto is a diagram, showing the distance from the locomotive to points of intersection of the center line of the headlight rays with the outer rail, and the location side line of curves of one to six degrees, inclusive. This table proves that a high-powered light is not needed upon curved track; and, if used, would extend beyond the outside rail on curves, and in many instances outside the location, to the detriment of persons residing near or using public ways adjacent to and parallel with the railroad. However, long experience in the operation of locomotives has made clear the importance of installing on the front end of all trains a headlight to indicate the approach and presence of trains, therefore I recommend that all locomotives operated on railroads in Massachusetts be provided with a suitable headlight, to be properly maintained and kept lighted between sunset and sunrise when in use.

Respectfully submitted,

GEORGE W. BISHOP,
Chief of Inspection Department.

[P. S. C. 2079-F]

Degree of Curve	Distance A	Distance B
1° 0'	165.16'	686.27'
2° 0'	116.14'	484.44'
3° 0'	94.69'	394.79'
4° 0'	81.68'	341.30'
5° 0'	73.35'	304.73'
6° 0'	66.92'	278.04'

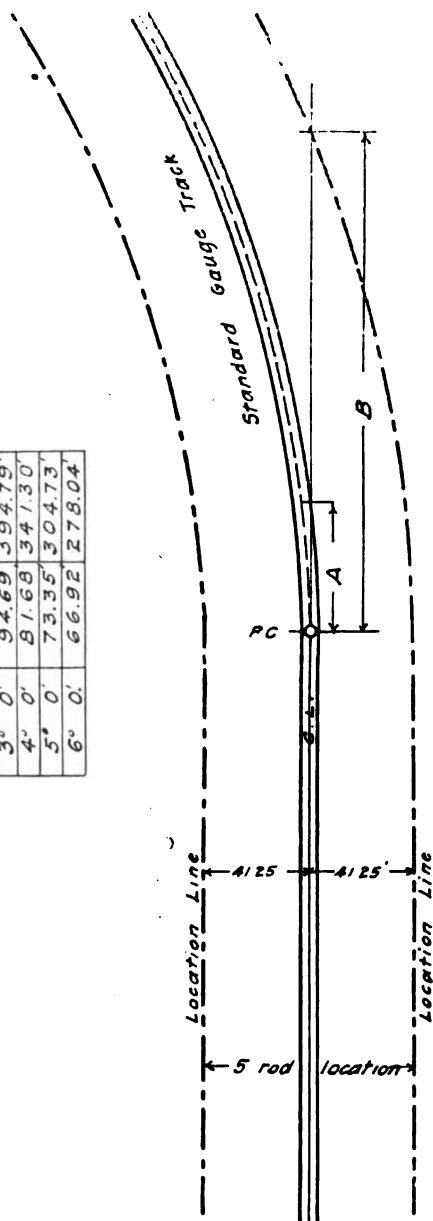


Diagram Showing Distances from the Locomotive to Points of Intersection of the Center Line of Head Light Rays with the outer Rail and the Location Side Line on Curves of 1° to 6° inclusive.

Eng. Dept. Mass. R.S.C. Apr. 23, 1916

RAILROAD ACCIDENTS.

Investigation of accident on Boston and Albany railroad in Cambridge, October 12, 1918.

OCTOBER 29, 1918.

Public Service Commission, Hon. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN: — I beg to submit the following report concerning a collision which occurred at 5.17 A.M. on October 12, 1918, between Boston and Albany engine No. 230 and car No. 1393 of the Boston Elevated Railway Company at Massachusetts avenue in the city of Cambridge, where the tracks of these companies cross at grade.

Following an investigation made by this department of a collision which occurred on Cambridge street on April 25, 1915, the rules of the Boston Elevated Railway Company were revised to read as follows: —

(B) BOSTON AND ALBANY FREIGHT TRAIN CROSSINGS.

At these steam railroad crossings: —

Massachusetts Avenue, Cambridge.
Main Street, Cambridge.
Broadway, Cambridge.
Cambridge Street, Cambridge.

1. Night operation: —

Week days between 7 P.M. and 6 A.M.
Sundays between 6 P.M. and 6 A.M.

During these hours cars must always be brought to a full stop within 100 feet of the crossing at point designated by "STOP" sign.

Conductor must go ahead to the middle of the crossing, assure himself that no train is approaching from either direction, then give the "ALL RIGHT" signal. (See page 79, Rule Book.)

Motorman upon receiving signal from conductor must, before starting, look back and assure himself that no passengers are boarding or alighting. He must then ring two bells to the rear as a signal that he is about to start, but in no case shall he proceed over the crossing unless he has satisfied himself that it is safe to do so.

It shall be the duty of the conductor to observe the passage of car and replace trolley should same leave the wire.

When car has passed over the crossing, conductor shall board and give motorman signal to start.

On semi-convertible and articulated cars, conductors shall board and leave by the forward end. Doors must be closed before car is started, and not opened until car is brought to a stop after passing over crossing.

On October 12, 1918, the time of the accident, the platform crew operating Boston Elevated car No. 1393 from Bennett street to Dudley street, as required, on approaching the Grand Junction track at Massachusetts avenue, brought the car to a full stop within 100 feet of the crossing. The conductor failed to go ahead to the middle of the crossing to assure himself that no train was approaching in either direction, and give the signal "all right" to proceed. The motorman, failing to insist upon this protection, proceeded to cross the tracks of the Grand Junction railroad, and, consequently, the car collided with Boston and Albany engine No. 230. The records of the company show that there were eleven passengers on the car at the time of the collision. Fortunately, no fatalities occurred.

At the time of the collision Boston and Albany engine No. 230 (being operated tender first), with a crew consisting of a conductor, engineer, fireman and two brakemen, was moving towards East Cambridge. The rule provided by the Boston and Albany railroad for protection during the hours when crossing tenders are not on duty is as follows: —

Grand Junction Branch. — No train, engine or hand car will be run over any street in Cambridge, Somerville or East Boston until the gates are lowered, and gates must not be raised until entire train has cleared crossing.

At the time of the accident, no gateman was on duty at this crossing and the crew of engine No. 230 failed to carry this rule into effect.

The investigation of this accident shows that the responsibility therefor rests jointly upon the crew of Boston and Albany engine No. 230 and the platform crew of the Boston Elevated railway car No. 1393, each having failed to carry into effect the rules prescribed by their respective companies for the operation of cars and trains over the Massachusetts avenue crossing; and illustrates the importance of the strict observance by employees of rules and regulations issued by the managements of railroads and street railways governing their employment, as well as the enforcement of such rules by the company.

Respectfully submitted,

GEORGE W. BISHOP,
Chief of Inspection Department.

[P. S. C. 2079-K]

Investigation of accident on the New York, New Haven and Hartford railroad near Plymouth, June 17, 1918.

SEPTEMBER 26, 1918.

Public Service Commission, Hon. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN: — I beg to submit the following report with reference to a collision of trains which occurred on the Darby branch of the New York, New Haven and Hartford railroad near Plymouth on June 17, 1918: —

On the day of this accident, passenger train No. 5207, consisting of an engine, combination car and five passenger coaches, left Boston at 5.20 P.M. en route for Plymouth via Whitman. It arrived at its destination at 6.58 P.M., five minutes late. After discharging its passengers, the train crew of the empty draft, No. 5207, proceeded to place the cars of this train on a sidetrack on the Darby branch in the Plymouth yard. This movement required the operation of the train against traffic on the inward main track to Plymouth for a distance of about 1,000 feet to the intersection of the Darby branch, thence over the Darby branch about 1,800 feet to the place where the collision with train No. 5481 occurred. Near this point is a yard limit sign which permits train crews to work under rule No. 93, which reads as follows: —

Yard limits will be designated on the time-table and indicated by yard limit signs.

Within yard limits the main track may be used protecting against first-class trains.

Second-class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear.

Passenger carrying trains are not relieved from observance of Rule 99 within yard limits.

The results of this accident were less serious than might have been expected.

Passenger train No. 5481, involved in this collision, is a regular first-class train, running from Middleborough to Plymouth, and at the time of this accident was being operated within its rights, therefore its crew was in no way responsible for the accident.

The crew of train No. 5207 and the switchman at Plymouth either failed to observe, or forgot, that in time-table No. 73, which went into effect at 12.01 A.M. on the previous day, June 16, the arriving time of train No. 5481 at Plymouth had been

changed from 7.26 to 7.14 p.m. This negligence resulted in the empty draft, No. 5207, entering upon the Darby branch without flag protection as required by rule No. 93. The entire crew of train No. 5207 and the switchman had received copies of timetable No. 73 and had given receipts therefor. With this information at their command, it is difficult to understand how six employees should, at the same time, have participated in such a rank violation of rule No. 93 as that which caused this accident.

This accident was investigated by the management of the New York, New Haven and Hartford railroad and the conductor and engineer of empty draft No. 5207 were held primarily responsible, in that they violated rule No. 93 and did not thoroughly examine the time-table with a view to noticing any change that might have been made affecting the movement of trains within Plymouth yard limits. Demerits were placed against the records of the conductor, engineer and switch tender, and the baggage master and flagman were reprimanded. All were retained in the service of the company.

This accident illustrates the unreliability of the human agency in the operation of railroads and justifies the installation of such safeguards as would tend to obviate a recurrence of accidents of this nature. The portion of the Darby branch within the yard limits at Plymouth involves sharp curves and a descending grade toward Plymouth of about 90 feet to the mile. Owing to these undesirable conditions, and in consequence of information obtained during the investigation of this accident, I recommend the prompt installation of automatic signals for the protection of trains operating on the Darby branch within the Plymouth yard; this installation to be made in a manner that will permit of its becoming a part of an interlocking plant which, in my opinion, should in the near future be installed in the Plymouth yard, both for the protection of trains operated over the main tracks of the Boston division and those operated over the Darby branch.

Respectfully submitted,

GEORGE W. BISHOP,
Chief of Inspection Department.

[P. S. C. 2079-J]

*Investigation of accident on Connecticut Valley street railway at
Turners Falls in Montague, September 29, 1918.*

OCTOBER 31, 1918.

Public Service Commission, Hon. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN:—I beg to submit the following report with reference to an accident which occurred on the Connecticut Valley street railway at Turners Falls in the town of Montague at 5.35 P.M. on September 29, 1918, when car No. 44 became derailed and tipped over on its side at the corner of Seventh and L streets. The company's records show that there were thirty-three passengers on the car and, of this number, twenty were reported more or less injured and one very seriously injured.

An investigation of this accident by the Inspection Department shows that the car descended the steep grade on L street at moderate speed, slowed up at the foot of the steep grade, proceeded a short distance and struck some leaves and mud on the rails, which caused the car to slide. The condition of the track at the place of the accident does not differ materially from conditions too frequently found at other points on this system, as well as upon other street railways. The methods adopted by the street railway managements for correcting these conditions vary considerably, which results in greater precautions being taken to guard against accidents of this nature by some railways than by others. Many street railways provide sand cars, which are operated over the tracks for the purpose of distributing sand upon the rails. In addition to this, some companies require that the track oiler, or some other person designated, shall remove leaves and mud from the rails to obviate slippery conditions. The Connecticut Valley Street Railway Company has a fully equipped sand car, which in previous years has been operated over the lines of the company north of Hatfield at such times as the condition of the rails required. During this season, owing to the scarcity of labor, and at the time of the accident on account of the number of men off sick, this car has been run only two or three times.

Car No. 44, involved in this accident, has an 8-foot wheel base and is equipped with a Taylor truck, Peacock brake and 12-A motors. There were four new brake shoes on the car, and after the accident the brakes were found to be in good condition. The two Murphy sand boxes on this car, although displaced, were found partially filled with sand. While a car of this type could

not have been expected to successfully pass around the curve at the corner of Seventh and L streets at a high rate of speed, a double truck car might have done so with success.

Evidence secured during this investigation is convincing that the accident was caused by the slippery condition of the rails. This department has frequently reminded those in charge of the operation of street railways of the importance of avoiding such conditions. Such requests have usually been followed with a prompt compliance, which, in many instances, has proved to be of a temporary nature. This subject should receive more serious consideration by street railway companies in the future than it has in the past. For the purpose of reducing the number of accidents of this kind to a minimum, I recommend the prompt removal of grass, weeds and leaves from street railway tracks and a free use of sand upon the rails when conditions so require. I also recommend the installation of a positive stop at the top of all long or steep descending grades. This will result in testing the brakes to ascertain if they are in good working order, and will enable the motorman to begin the descent with his car under absolute control.

Respectfully submitted,

GEORGE W. BISHOP,
Chief of Inspection Department.

[P. S. C. 2079-M]

Investigation of an accident at the waiting room of the Middlesex and Boston Street Railway Company at Lake street in Boston, November 20, 1918.

DECEMBER 2, 1918.

Public Service Commission, Hon. FREDERICK J. MACLEOD, Chairman.

GENTLEMEN: — I beg to submit this report relative to an accident which occurred at the waiting room of the Middlesex and Boston Street Railway Company on Commonwealth avenue near Lake street in the city of Boston at about 6.35 P.M. on Wednesday, November 20, 1918. On the evening of this accident, Boston Elevated car No. 616 was standing on the outside track of that company near the point of connection with the Middlesex and Boston Street Railway Company's tracks, when a starter of the Boston Elevated Railway Company directed a motorman, who had been in the employ of the company about six months, to take the car and move it further west. The

starter claims that he instructed the motorman to 'take the car "up on the side," while the motorman claims he was instructed to take the car and put it out of the way on top of the hill. Be this as it may, he took the car, without a conductor, and proceeded west on the track of the Middlesex and Boston street railway on an ascending grade of about four per cent to a crossover track at a point about 500 feet west of the waiting station. At this point he claims to have set the air brake, then went outside the car to change the trolley to the opposite end of the car and, while he was engaged in this work, the car started down the grade (he being unable to board it again) and went unattended a distance of about 500 feet until it crashed into and demolished the station, injuring three persons, one of whom died soon after.

I find that three distinct switching movements of the Boston Elevated cars are frequently made upon the tracks of the Middlesex and Boston street railway; the first being two or three car lengths beyond the point of track connection, another to a point about 500 feet beyond the waiting room, and yet another which involves moving a car or train from the point of connection on the westbound outside track to the crossover track about 500 feet west, thence crossing both main tracks to the east bound outside track, thence to a point nearly opposite the point of beginning. Thus the order given by the starter to take the car "up on the side" appears to have been of altogether too indefinite a character. The outcome of this misunderstanding illustrates the necessity of unmistakable orders being given with reference to the operation of street railway cars.

Opposite the Middlesex and Boston street railway waiting room is a similar waiting room owned by the Boston Elevated Railway Company. Both street railways at this point consist of double main tracks. The tracks of the Boston Elevated railway nearly abut the east end, while the tracks of the Middlesex and Boston street railway nearly abut the west end of each of these buildings. Outside these tracks on the north is a westbound track and on the south an eastbound track, connecting the two systems, so as to provide for through service or the switching of cars or trains. At the ends of the tracks near the waiting room are bumper posts, but these are not of a very substantial nature, certainly not suitable to stop runaway cars.

In accordance with a contract made between the two companies in 1915, either of the companies may operate its cars over

the tracks of the other company without supervision by the management of the company owning the tracks. This is an important street railway connection situated at the foot of a long descending four per cent grade on the Middlesex and Boston street railway. A large number of persons change cars at this place, therefore all reasonable safeguards should be required to protect the traveling public.

For the purpose of preventing the recurrence of accidents of this character, I recommend a change in the operating contract made by these companies under date of April 1, 1915, to include the following: —

Said Boston Elevated Railway Company and Middlesex and Boston Street Railway Company agree that they will employ two experienced men for each car operated (unless of a type approved for one-man operation by the Public Service Commission), who shall at all times be subject and conform to the rules and regulations and the direction of the proper officers of the company over whose tracks the cars are being operated.

I further recommend the installation of suitable bumpers at a proper distance from the waiting rooms to protect the same.

Respectfully submitted,

[P. S. C. 2079-N]

GEORGE W. BISHOP,
Chief of Inspection Department.

JOINT USE OF TRACKS.

Petition of the Nahant and Lynn Street Railway Company relative to the operation of cars over tracks of the Bay State Street Railway Company between Central square in Lynn and Lynn beach.

Memorandum.

This petition was heard on March 5, 1918. The Nahant and Lynn Street Railway Company claims that the absence of a satisfactory agreement with the Bay State Street Railway Company, covering the operation of cars of the Nahant company over the tracks of the Bay State company in Lynn, between Central square and Lynn beach, seriously discommodates its patrons with respect both to inequalities in fares and delays in service. At the hearing it was arranged that representatives of the two companies should confer, with a view to entering into an agreement mutually satisfactory to parties in interest. Such an agreement has now been presented to the Commission for its consideration. Under its terms, provision is made for a continuous trip between the terminus of the Nahant and Lynn street railway in Nahant and Central square, Lynn, at a reduction in the present rate of fare. The agreement as proposed appears to be in the public interest and will be approved in a separate proceeding (see P. S. C. 2146). Action on the petition under consideration appears to be unnecessary, and it is therefore placed on file.

By the Commission,

ANDREW A. HIGHLANDS,

MAY 29, 1918. [P. S. C., 1913]

Secretary.

Petition of the Bay State Street Railway Company and the Nahant and Lynn Street Railway Company for approval of agreement for operation of cars over certain tracks in Lynn.

After full consideration, —

It is

Ordered, That the Commission hereby certify that the operation of cars by the Nahant and Lynn Street Railway Company

over certain tracks of the Bay State Street Railway Company between the boundary line between the city of Lynn and the town of Nahant and the Item building, so called, in said city of Lynn, to the extent and under the rules and regulations provided in an agreement executed between the Receiver of the Bay State Street Railway Company and the Nahant and Lynn Street Railway Company under date of May 3, 1918, a copy of which agreement is on file in this office, is consistent with the public safety.

Attest: ANDREW A. HIGHLANDS,
MAY 29, 1918. [P. S. C. 2146] Secretary.

Petition of the Bay State Street Railway Company and the Swansea and Seekonk Street Railway Company for approval of agreement for use of certain tracks in Somerset and Fall River.

It appearing, after notice and hearing, that the terms of an agreement executed by the Bay State Street Railway Company and the Swansea and Seekonk Street Railway Company, dated November 30, 1917, a copy of which agreement is on file with the petition, provide for a use of tracks in the town of Somerset and city of Fall River that is consistent with the public safety, — it is

Ordered, That such authority for entering upon and using the tracks of these railways as may be derived from the above-named agreement be hereby approved, upon the understanding that the operation of cars over the tracks subject to such use shall be governed by joint rules and regulations established and published by both companies.

Attest: ANDREW A. HIGHLANDS,
JANUARY 18, 1918. [P. S. C. 2014] Secretary.

Petition of the Boston and Worcester Street Railway Company and the Concord, Maynard and Hudson Street Railway Company for approval of contract relative to the operation of cars in the town of Hudson.

It appearing, after notice and hearing and full consideration, that the terms of a contract executed by the Boston and Worcester Street Railway Company and the Concord, Maynard and Hudson Street Railway Company, dated January 1, 1916, providing that the Boston and Worcester Street Railway Company,

during the period ending November' 12, 1919, shall perform all the transportation over and upon that portion of the railway of the Concord, Maynard and Hudson Street Railway Company in the town of Hudson, lying between the terminus of the tracks of the Boston and Worcester street railway in Washington street and a point in Wood square, a distance of 510 feet, and also over the spur track of the Concord, Maynard and Hudson Street Railway Company in Washington street near South street, covering a distance of about 85 feet, are consistent with the public interests, — it is

Ordered, That the approval of the Commission be hereby given to the above-named contract, a copy of which is on file in this office.

Attest:

ANDREW A. HIGHLANDS,

OCTOBER 8, 1918,

[P. S. C. 1238]

Secretary.

RAILROAD LOCATIONS.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the city of Boston may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed January 29, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the city of Boston in the county of Suffolk in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making or securing its railroad for depot or station purposes or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on February 27, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Boston for the purpose of making or securing its railroad for depot or station purposes or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that, subject to the rights of the city of Boston to maintain, repair and renew its existing sewer and water pipes located therein, such land may be taken as by law provided within the following limits, to wit: —

A parcel of land situated in the city of Boston, county of Suffolk and commonwealth of Massachusetts, bounded and described as follows: —

Beginning at the intersection of the northwesterly line of South street with the northeasterly line of a private way called Harvard street, and

thence running southwestwardly by the said northwesterly line of said South street about thirty and seventy-eight hundredths ($30\frac{78}{100}$) feet to the southwesterly line of said Harvard street; thence turning and running north $60^{\circ} 27' 34''$ west by the said southwesterly line of said Harvard street about one hundred and eighty-four and ninety-six hundredths ($184\frac{96}{100}$) feet to the northwesterly line of Utica street; thence turning and running north $16^{\circ} 35' 15''$ east by the said northwesterly line of said Utica street about thirty and seventy-eight hundredths ($30\frac{78}{100}$) feet; thence turning and running south $60^{\circ} 27' 34''$ east by the said northeasterly line of said Harvard street about one hundred and eighty-four and ninety-six hundredths ($184\frac{96}{100}$) feet to the place of beginning; said land is supposed to belong to the City of Boston, the Boston and Albany Railroad Company, Margaret Holley, Frank H. Monks and Devereaux B. Barker, Trustees, and the Boston Safe Deposit and Trust Company, Trustee of the William S. Hills Land Trust.

The said parcel of land is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R. (N. Y. C. R.R. Co., Lessee), Boston Division, Main Line, Additional Land Required for Railroad Purposes, Boston," dated January, 1918, and was signed by us and filed herewith.

FREDERICK J. MACLEOD,
EVERETT E. STONE,
JOHN F. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

MARCH 19, 1918.

[P. S. C. 2053]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the city of Cambridge may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed November 14, 1917, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the city of Cambridge in the county of Middlesex in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making or securing its railroad, for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing

thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on December 21, 1917.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Cambridge for the purpose of making or securing its railroad, for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

Land situated in the city of Cambridge, county of Middlesex and commonwealth of Massachusetts, bounded and described as follows: —

Beginning at the intersection of the westerly side line of a private way known as Ninth street with the southerly side line of a public way known as Charles street, produced westwardly across said Ninth street and running eastwardly by the southerly side line of said Charles street produced across said Ninth street fifty (50) feet to the easterly side line of said Ninth street; thence turning and running southwardly by the easterly side line of said Ninth street two hundred and two hundredths ($200\frac{2}{100}$) feet to the northerly line of a private way known as Bent street; thence turning and running eastwardly by the northerly line of said Bent street four hundred and sixty and seven hundredths ($460\frac{7}{100}$) feet to a point on the dividing line between land belonging to the Boston and Albany Railroad Company and land belonging to Agostino B. Dondero; thence turning a right angle and running southwardly across said Bent street fifty (50) feet to the southerly line thereof; thence turning and running westwardly by the southerly side line of said Bent street four hundred and sixty and seven hundredths ($460\frac{7}{100}$) feet to the easterly side line of said Ninth street; thence turning and running southwardly by the easterly side line of said Ninth street two hundred and fifty and two hundredths ($250\frac{2}{100}$) feet to the southerly side line of Rogers street; thence turning a right angle and running westwardly fifty (50) feet across said Ninth street to the westerly line thereof; thence turning and running northwardly by the said westerly side line of said Ninth street five hundred and four hundredths ($500\frac{4}{100}$) feet to the place of beginning; said land supposed to belong to the Boston Bridge Works, American Rubber Company, Standard Oil Company of New York, the City of Cambridge and Agostino B. Dondero and the Boston and Albany Railroad Company.

The said land is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., N. Y. C. R.R. Co. Lessee, Boston Division, Grand Junction Branch, Additional Land Required for Railroad Purposes, Cambridge," dated November, 1917, and signed by us and filed herewith.

FREDERICK J. MACLEOD;
EVERETT E. STONE,
JOHN E. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

JANUARY 8, 1918. [P. S. C. 1969]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the towns of Dalton and Hinsdale may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed October 22, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the towns of Dalton and Hinsdale in the county of Berkshire in the commonwealth of Massachusetts, outside the limits of its route already fixed in said towns, for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on November 7, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Dalton and Hinsdale for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is

further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

Three parcels of land situated in the towns of Dalton and Hinsdale, county of Berkshire and commonwealth of Massachusetts, bounded and described as follows: —

Parcel No. 1. — Land situated in Dalton and bounded and described as follows: — Beginning at the southwesterly corner thereof at a point on a stone wall on the dividing line between land of Thomas J. Kelley and land of David and Ellen Tobin, distant one hundred (100) feet westerly from the base line of the location of the Boston & Albany Railroad, measured at right angles thereto, near the boundary line between the Towns of Dalton and Hinsdale; thence running northwardly over land of said Kelley by a line parallel with said base line of said location and distant one hundred (100) feet westerly therefrom about twelve hundred and sixty (1,260) feet to a stone wall separating said Kelley's land from land now or formerly of Zenas and W. Murray Crane opposite Station 454+42; thence turning and running eastwardly by said stone wall and by land now or formerly of said Cranes about fifty-eight (58) feet to land of the Boston & Albany Railroad Company; thence turning and running southwardly by land of said Railroad Company over said land of said Kelley to said stone wall separating land of said Kelley from land of said David and Ellen Tobin; thence turning and running southwestwardly by said wall and by land now or formerly of said David and Ellen Tobin about forty-six (46) feet to the place of beginning, containing about ninety-eight hundredths of an acre, more or less, and supposed to belong to Thomas J. Kelley.

Parcel No. 2. — Land in Dalton bounded and described as follows: — Beginning at the intersection of the westerly line of Barton Avenue with the southeasterly side line of the location of the Boston & Albany Railroad, distant forty-nine and fifty hundredths ($49\frac{50}{100}$) feet southeasterly from the base line of said location measured at right angles thereto; thence running southwestwardly over land of Edwin S. Pomeroy and Theodore M. Pomeroy about four hundred and ninety-eight (498) feet to a point distant ninety and seventy-five hundredths ($90\frac{75}{100}$) feet southeasterly from said base line measured at right angles thereto at Station 618+18.70; thence turning and running southwestwardly by a line drawn parallel with said base line and distant ninety and seventy-five hundredths ($90\frac{75}{100}$) feet southeasterly therefrom sixty (60) feet to the dividing line between land of said Edwin S. Pomeroy and Theodore M. Pomeroy and land of Edward Davin; thence continuing in the same direction nine hundred and eighty and sixty-seven hundredths ($980\frac{67}{100}$) feet to a stone monument set in the ground on the dividing line between land of Edward Davin and land now or formerly of Wesley B. Barton, distant ninety and seventy-five hundredths ($90\frac{75}{100}$) feet southeasterly from said base line, measured at right angles thereto, at or near Station 614+32.43; thence turning and running westwardly by land of said Railroad Company fifty-three and

twenty-five hundredths ($53^{25}/100$) feet to a stone monument set in the ground distant forty-nine and fifty hundredths ($49^{50}/100$) feet southeasterly from said base line, measured at right angles thereto, at or near Station 614+66.83; thence turning and running northeasterly by land of said Railroad Company about fifteen hundred and sixty-seven and thirteen hundredths ($1,567^{13}/100$) feet to the place of beginning, containing about one and twenty-three hundredths (1.23) acres, more or less, and supposed to belong to Edward Davin, Edwin S. Pomeroy and Theodore M. Pomeroy.

Parcel No. 3. — Land in Hinsdale bounded and described as follows: — Beginning at a point on the northerly line of Taylor Street, distant fifty-seven and seventy-five hundredths ($57^{75}/100$) feet westerly from the base line of the location of the Boston & Albany Railroad, measured at right angles thereto; thence running westwardly by the said northerly line of said Taylor Street about eighteen (18) feet to a point distant seventy-four and twenty-five hundredths ($74^{25}/100$) feet westerly from said base line, measured at right angles thereto; thence turning and running northwestwardly by a line drawn parallel with said base line and distant seventy-four and twenty-five hundredths ($74^{25}/100$) feet westerly therefrom about four hundred and eighty (480) feet to a point opposite Station 330+91; thence turning and running southeastwardly and southwardly by land of the Boston & Albany Railroad Company about four hundred and eighty-seven and fifty-eight hundredths ($487^{58}/100$) feet to the place of beginning, containing eighteen hundredths of an acre, more or less, and supposed to belong to Albert Tarnawa.

Parcel No. 1 is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., The N. Y. C. R.R. Co., Lessee, Albany Division, Main Line, Additional Land Required for Railroad Purposes, Hinsdale-Dalton," dated October, 1918; parcel No. 2 is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., N. Y. C. R.R. Co., Lessee, Albany Division, Main Line, Additional Land Required for Railroad Purposes, Dalton," dated October, 1918; and parcel No. 3 is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., The N. Y. C. R.R. Co., Lessee, Albany Division, Main Line, Additional Land Required for Railroad Purposes, Hinsdale," dated October, 1918, all of said plans being signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

NOVEMBER 18, 1918. [P. S. C. 2301]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the towns of Hinsdale and Dalton may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed October 24, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the towns of Hinsdale and Dalton in the county of Berkshire in the commonwealth of Massachusetts, outside the limits of its route already fixed in said towns, for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on November 7, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Hinsdale and Dalton for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

One parcel of land situated in the towns of Hinsdale and Dalton, county of Berkshire and commonwealth of Massachusetts, bounded and described as follows: —

Beginning at the southwesterly corner thereof at a point on a foot-path on land of David and Ellen Tobin distant one hundred (100) feet northwesterly from the base line of the location of the Boston and Albany Railroad, measured at right angles thereto at station 437+48; thence running northeastwardly over said land of said Tobins by a line drawn parallel with said base line and distant one hundred (100) feet northwesterly therefrom about three hundred and sixty-five (365) feet to a stone wall separating land of said Tobins from land of Thomas Kelley; thence turning and running eastwardly by said wall and by land of said Kelley about forty-six (46)

feet to land of the Boston and Albany Railroad Company; thence turning and running southwardly by land of said Railroad Company four hundred and thirty-eight (438) feet to a point near an elm tree distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet northwesterly from said base line measured at right angles thereto, at or near station 436+92 on said base line of location; thence turning and running northwestwardly by remaining land of said Tobins about eighty (80) feet to the place of beginning, containing forty-six hundredths of an acre, more or less, and supposed to belong to David Tobin and Ellen Tobin.

Said parcel of land is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., The N. Y. C. R.R. Co., Lessee, Albany Division, Main Line, Additional Land Required for Railroad Purposes, Hinsdale-Dalton," dated October, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

NOVEMBER 18, 1918.

[P. S. C. 2302]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the town of Hinsdale may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed December 10, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the town of Hinsdale in the county of Berkshire in the commonwealth of Massachusetts, outside the limits of its route already fixed in said town, for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on December 19, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been

duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Hinsdale for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

One parcel of land situated in the town of Hinsdale, county of Berkshire and commonwealth of Massachusetts, bounded and described as follows: —

Beginning at the intersection of a fence with the westerly side line of the location of the Boston & Albany railroad at a point distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet westerly from the base line of said location, measured at right angles thereto at station 409+46; thence running westwardly by said fence about forty-four (44) feet to a point distant eighty-five (85) feet westerly from said base line measured at right angles thereto; thence turning and running northwestwardly by a line drawn parallel with said base line and distant eighty-five (85) feet westerly therefrom about four hundred and twenty-five (425) feet to a point opposite station 413+80; thence running northwestwardly about two hundred and forty-nine and forty-seven hundredths ($249\frac{47}{100}$) feet to a point distant one hundred (100) feet westerly from said base line, measured at right angles thereto at station 416+30; thence running northwestwardly about two hundred and fifty-six and eighty-eight hundredths ($256\frac{88}{100}$) feet to a point distant eighty-five (85) feet westerly from said base line measured at right angles thereto at station 418+80; thence turning and running northwardly one hundred and eighty-five and one hundredths ($185\frac{1}{100}$) feet to a point on the location of said railroad distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet westerly from said base line, measured at right angles thereto at station 420+55; thence turning and running southeastwardly by land of the Boston & Albany Railroad Company about eleven hundred and fifteen (1,115) feet to the fence at the place of beginning, containing one and four hundredths ($1\frac{4}{100}$) acres, more or less, and supposed to belong to the Hinsdale Woolen Mills.

Said parcel of land is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R. The N. Y. C. R.R. Co. (Lessee) Albany Division, Additional Land Required for Railroad Purposes, Hinsdale," dated September, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

DECEMBER 20, 1918.

[P. S. C. 2327]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the city of Pittsfield may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed October 8, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the city of Pittsfield in the county of Berkshire in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owner of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on November 7, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Pittsfield for the purpose of making or securing its railroad or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owner, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit:—

A parcel of land situated in the city of Pittsfield, county of Berkshire and commonwealth of Massachusetts, bounded and described as follows:—

Beginning at the intersection of the northerly side line of the land of the Boston and Albany Railroad Company with the dividing line between land of Charles Goodrich and land of Mathias Jacoby at a point distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet northerly from the base line of location of the Boston and Albany Railroad measured at right angles thereto at Station 955+45; thence running westwardly by said northerly side line about six hundred and ninety-three (693) feet to the westerly line of a discontinued road; thence turning and running northwardly by the said westerly line of said discontinued road, about forty-five (45) feet to a point distant seventy-four and twenty-five hundredths ($74\frac{25}{100}$) feet northerly from said base line measured at right angles

thereto; thence turning and running eastwardly by a line parallel with said base line, and distant seventy-four and twenty-five hundredths ($74\frac{25}{100}$) feet northerly therefrom, about six hundred and eighty-five (685) feet to land of said Goodrich; thence turning and running southwardly by land of said Goodrich about forty (40) feet to the place of beginning, containing fifty-two hundredths of an acre, more or less, and supposed to belong to Mathias Jacoby.

Said parcel of land is shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., The N. Y. C. R.R. Co. (Lessee), Albany Division, Additional Land Required for Railroad Purposes, Pittsfield," dated September, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

NOVEMBER 18, 1918.

[P. S. C. 2294]

Commissioners.

Petition of the Boston and Albany Railroad Company that the Commission prescribe the limits within which certain land in the city of Springfield may be taken for railroad purposes.

Upon the petition of the Boston and Albany Railroad Company, filed August 5, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the city of Springfield in the county of Hampden in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making or securing its railroad, for depot or station purposes or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on September 5, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Albany Railroad Company requires additional land in Springfield for the purpose of making or securing its

railroad, for depot or station purposes or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

Certain parcels of land situated in the city of Springfield, county of Hampden and Commonwealth of Massachusetts, bounded and described as follows: —

Parcel No. 1. — Beginning at an iron rail imbedded in the ground at the intersection of the dividing line between land of the Bay State Storage and Warehouse Company and land of Henry Lasker and Morris Hirsch, formerly of Alice W. Adams, with the dividing line between land of said Bay State Storage and Warehouse Company and land of the Boston and Albany Railroad Company at a point distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet northwesterly from the base line of the location of the Boston and Albany Railroad measured at right angles thereto at or near Station 713+93.81; thence running southwestwardly by land of said Railroad Company, by a line drawn parallel with said base line and distant forty-one and twenty-five hundredths ($41\frac{25}{100}$) feet northwesterly therefrom about one hundred and sixty-five and ninety-one hundredths ($165\frac{91}{100}$) feet to an iron rail imbedded in the ground on the dividing line between land of the said Lasker and Hirsch, formerly of the said Adams, and land of the said Railroad Company; thence turning and running northwestwardly by land of said Railroad Company fifty (50) feet to an iron rail imbedded in the ground ninety and ninety-six hundredths ($90\frac{96}{100}$) feet northwesterly from said base line measured at right angles thereto at or near Station 715+54.36; thence turning and running westwardly by the remaining land of said Lasker and Hirsch, formerly of said Adams, about one hundred and sixty-eight and seven hundredths ($168\frac{7}{100}$) feet to the place of beginning, containing ninety-four thousandths ($\frac{94}{1000}$) of an acre, more or less; said parcel is supposed to belong to Henry Lasker and Morris Hirsch.

Parcel No. 2. — Beginning at an iron rail imbedded in the ground on land of the Trustees of the Armory Realty Trust distant one hundred and six (106) feet northwesterly from the base line of the location of the Boston and Albany Railroad measured at right angles thereto at Station 685+33; thence running northeastwardly by a line drawn parallel with and distant one hundred and six (106) feet northwesterly from said base line about four hundred and fifty-one and ninety-eight hundredths ($451\frac{98}{100}$) feet to an iron rail imbedded in the ground opposite Station 680+81.02; thence turning and running northwestwardly ten (10) feet to an iron rail imbedded in the ground distant one hundred and sixteen (116) feet northwesterly from said base line measured at right angles thereto at said Station 680+81.02; thence turning and running northeastwardly

over land of said Trustees and over land of the City of Springfield by a line drawn parallel with said base line and distant one hundred and sixteen (116) feet northwesterly therefrom about three hundred and thirty-seven and ninety-eight hundredths ($337^{98}/100$) feet to an iron rail imbedded in the ground opposite Station 677+43.04; thence turning and running south-eastwardly over land of the said City of Springfield about forty-five and thirty-seven hundredths ($45^{37}/100$) feet to land of the said Boston and Albany Railroad Company at an iron rail imbedded in the ground distant seventy-five (75) feet northwesterly from said base line measured at right angles thereto at Station 677+68.56; thence turning and running south-westwardly by land of said Boston and Albany Railroad Company to the place of beginning, containing seven hundred and forty thousandths ($740/1000$) of an acre, more or less; said parcel is supposed to belong to the Trustees of the Armory Realty Trust and the City of Springfield.

Also slope rights in the following parcel of land in said Springfield, bounded and described as follows: —

Parcel No. 3. — Beginning at an iron rail imbedded in the ground at a point on land of M. S. Converse Company distant forty-eight and twenty-five hundredths ($48^{25}/100$) feet northwesterly from said base line of location measured at right angles thereto at Station 694+63.32; thence running northeastwardly over land of said Converse Company by a line drawn parallel with said base line and distant forty-eight and twenty-five hundredths ($48^{25}/100$) feet northwesterly therefrom, about two hundred and twenty-one and fifty-one hundredths ($221^{51}/100$) feet to land of the Trustees of the Armory Realty Trust at an iron rail imbedded in the ground; thence turning and running northwestwardly by said land of said Trustees about two and fifty-seven hundredths ($2^{57}/100$) feet to an iron rail imbedded in the ground distant fifty and sixty-nine hundredths ($50^{69}/100$) feet northwesterly from said base line of said location measured at right angles thereto at Station 692+41.04; thence turning and running northeastwardly over land of said Trustees of the Armory Realty Trust by a line curving convex to the south with a radius of four hundred and seventy-six and thirty-six hundredths ($476^{36}/100$) feet about ninety-four and eighty-six hundredths ($94^{86}/100$) feet to land of the Boston and Albany Railroad Company at a point distant forty-one and twenty-five hundredths ($41^{25}/100$) feet northwesterly from said base line of said location measured at right angles thereto at Station 691+46.58; thence turning and running southwestwardly by land of said Railroad Company about three hundred and sixteen and seventy-four hundredths ($316^{74}/100$) feet to an iron rail imbedded in the ground at a point opposite said Station 694+63.32; thence turning and running northwestwardly seven (7) feet to the place of beginning, containing forty-two thousandths ($42/1000$) of an acre, more or less; said parcel is supposed to belong to the M. S. Converse Company and the Trustees of the Armory Realty Trust.

All of said parcels of land are shown within lines marked in yellow upon a plan entitled "Boston & Albany R.R., The N. Y.

C. R.R. Co. (Lessee), Albany Division, Additional Land Required for Railroad Purposes, Springfield," dated July, 1918, revised November 15, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

NOVEMBER 26, 1918.

[P. S. C. 2239]

Commissioners.

Petition of the Boston and Providence Railroad Corporation that the Commission prescribe the limits within which certain land in the city of Attleboro and town of Seekonk may be taken for railroad purposes.

Upon the petition of the Boston and Providence Railroad Corporation, filed September 28, 1917, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes lying partly in the city of Attleboro and partly in the town of Seekonk, in the county of Bristol, in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city and said town, for the purpose of making and securing its railroad and for depot or station purposes and for one or more new tracks adjacent to other land occupied by it by tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to all parties known to be interested therein, by publication, and also by serving by copy on the city of Attleboro and on the town of Seekonk, in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on October 17, 1917.

All persons appearing at the hearing held as aforesaid having been heard and it appearing that the owner or owners of the land hereinafter described are unknown and cannot now be ascertained by diligent inquiry and a search of the records caused to be made by the petitioner, that said land is vacant, unimproved and unoccupied and that further notice either personal or by mail cannot be given to the owner or owners thereof; and it further appearing that there is an immediate and urgent necessity under existing war conditions for additional facilities in the movement of freight and storage of coal which will be provided

if said land can be utilized for such railroad purposes, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Boston and Providence Railroad Corporation requires additional land in the city of Attleboro and town of Seekonk, for the purpose of making and securing its railroad and for depot or station purposes, and for one or more new tracks adjacent to other land occupied by it by tracks already in use, and is unable to obtain the same by agreement with the owner, and it is further determined, ordered and decreed in so far as the Commission has the authority that such land may be taken as by law provided within the following limits, to wit: —

A certain parcel of land belonging to a person or persons unknown situated partly in said city of Attleboro and partly in said town of Seekonk, and bounded and described as follows: —

Beginning at a point at the intersection of the present northwesterly line of the right of way of the Boston and Providence Railroad Corporation with the present northerly line of Taunton Road, so-called; said point being distant thirty-three (33) feet northwesterly at right angles from station 434+68.38 of the monumented center line of said railroad; thence running north $9^{\circ} 29' 02''$ west two hundred five (205) feet; thence running south $80^{\circ} 30' 58''$ west one hundred (100) feet; thence running north $9^{\circ} 29' 02''$ west two hundred eighty-two and twenty-seven hundredths (282.27) feet more or less to a point distant four hundred eight (408) feet northwesterly at right angles from said monumented center line; thence running north $27^{\circ} 50' 58''$ east on a line parallel with and distant four hundred eight (408) feet northwesterly at right angles from said monumented center line one thousand two hundred forty-five and six-tenths (1,245.6) feet more or less to land of the Old Colony Railroad Company; thence running north $82^{\circ} 17' 49''$ east by said land of the Old Colony Railroad Company four hundred sixty and ninety-three hundredths (460.93) feet more or less to the said northwesterly line of the right of way of the Boston and Providence Railroad Corporation, said point being distant thirty-three (33) feet northwesterly at right angles from station 453+08.77 of said center line; thence running south $27^{\circ} 50' 58''$ west on a line parallel with and distant thirty-three (33) feet northwesterly at right angles from said monumented center line by land of the said Boston and Providence Railroad Corporation one thousand eight hundred forty and thirty-nine hundredths (1,840.39) feet more or less to the point of beginning; containing thirteen and forty-six hundredths (13.46) acres.

The said parcel of land is shown within lines marked in yellow upon a plan entitled "The Boston and Providence Railroad Cor-

poration, Additional Land Required for Railroad Purposes, Seekonk and Attleboro, Mass.," dated August 28, 1917, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOHN F. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

MAY 24, 1918. [P. S. C. 1914]

Commissioners.

Petition of the Nashua and Lowell Railroad Corporation that the Commission prescribe the limits within which certain land in the city of Lowell may be taken for railroad purposes.

Upon the petition of the Nashua and Lowell Railroad Corporation, filed July 10, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the city of Lowell in the county of Middlesex in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making and securing its railroad or for depot or station purposes or for one or more new tracks adjacent to other land occupied by said corporation by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on July 24, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Nashua and Lowell Railroad Corporation requires additional land in Lowell for the purpose of making and securing its railroad or for depot or station purposes or for one or more new tracks adjacent to other land occupied by said corporation by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

Certain parcels of land situated in the city of Lowell, county of Middlesex and commonwealth of Massachusetts, bounded and described as follows: —

Parcel 1. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $11^{\circ} 51'$ east forty and seventy-five hundredths (40.75) feet from station 1433+84.55 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $70^{\circ} 07' 56''$ west by land of Wilhelmina and Paula Mendlik one hundred ninety-nine and thirty-seven hundredths (199.37) feet; thence north $25^{\circ} 13' 30''$ west by land of Harriet S. Smith twenty-eight and fifty-seven hundredths (28.57) feet; thence north $78^{\circ} 09'$ east by land of the Boston and Maine Railroad two hundred three and ninety-three hundredths (203.93) feet to the place of beginning. Said parcel contains two thousand eight hundred thirty-five (2,835) square feet, more or less, and is subject to two mortgages, one supposed to be held by the Lowell Institution for Savings, dated May 22, 1917, recorded with Middlesex North District Deeds, Book 572, page 503, and the other supposed to be held by The Lowell Morris Plan Company, dated October 23, 1917, recorded with said Deeds, Book 579, page 198; said parcel is supposed to belong to Wilhelmina and Paula Mendlik of Lowell.

Parcel 2. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $11^{\circ} 51'$ east forty and seventy-five hundredths (40.75) feet from station 1435+88.48 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $25^{\circ} 13' 30''$ east by land of Wilhelmina and Paula Mendlik twenty-eight and fifty-seven hundredths (28.57) feet; thence south $70^{\circ} 07' 56''$ west by land of Harriet S. Smith one hundred fifty and twenty-five hundredths (150.25) feet; thence north $24^{\circ} 36' 30''$ west by land of Costikyan Carpet Corporation fifty (50) feet; thence north $78^{\circ} 09'$ east by land of the Boston and Maine Railroad one hundred fifty-three and thirty-one hundredths (153.31) feet to the place of beginning. Said parcel contains five thousand eight hundred seventy-six (5,876) square feet, more or less, and supposed to belong to Harriet S. Smith of Lowell.

Parcel 3. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $24^{\circ} 36' 30''$ east forty-two and twenty-nine hundredths (42.29) feet from station 1437+51.13 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $24^{\circ} 36' 30''$ east by land of Harriet S. Smith forty-nine and forty-nine hundredths (49.49) feet; thence south $74^{\circ} 47' 02''$ west by land of Costikyan Carpet Corporation two hundred eighty-eight (288) feet; thence north $18^{\circ} 28' 30''$ west by land of Joseph F. Cote sixty-five and sixty-two hundredths (65.62) feet; thence north $78^{\circ} 09'$ east by land of the Boston and Maine Railroad two hundred eighty-four and fourteen hundredths (284.14) feet to place of beginning. Said parcel contains sixteen thousand two hundred ninety-one (16,291) square feet, more or

less, and is supposed to belong to Costikyan Carpet Corporation, a Massachusetts corporation.

Parcel 4. — Beginning at a point on the southerly boundary of land of the Nashua and Lowell Railroad Corporation distant south $11^{\circ} 51'$ east twenty-seven and fifteen hundredths (27.15) feet from station 1440+27.58 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $18^{\circ} 28' 30''$ east by land of Boston and Maine Railroad and land of Costikyan Carpet Corporation seventy-nine and eighty-two hundredths (79.82) feet; thence south $69^{\circ} 37' 33''$ west by land now or formerly of Mihran Costikyan one hundred one and sixty-eight hundredths (101.68) feet; thence north $20^{\circ} 21' 30''$ west by land of Deborah Boudreau and land of Isaie Gouthier ninety-one and twenty-seven hundredths (91.27) feet; thence north $75^{\circ} 55' 40''$ east by land of the Nashua and Lowell Railroad Corporation one hundred four and ninety-three hundredths (104.93) feet to the place of beginning. Said parcel contains eight thousand eight hundred sixteen (8,816) square feet more or less and is subject to a mortgage supposed to be held by the Notre Dame DeLourdes Credit Union, dated June 10, 1913, and recorded, with Middlesex North District Deeds, Book 506, page 174. Said parcel is supposed to be subject to an easement for a right of way known as Middlesex Park, and is supposed to belong to Joseph F. Cote of Lowell.

Parcel 5. — Beginning at the northwest corner of said parcel at a point distant south $18^{\circ} 59'$ east eighty-nine and thirty-seven hundredths (89.37) feet from a point distant one hundred six and eighty-four hundredths (106.84) feet south $78^{\circ} 09'$ west from station 1441+21.14 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $69^{\circ} 38' 30''$ east by land of Isaie Gouthier ninety-seven and eighty hundredths (97.80) feet; thence south $20^{\circ} 21' 30''$ east by land of Joseph F. Cote and land now or formerly of Mihran Costikyan eighty (80) feet; thence south $69^{\circ} 38' 30''$ west by land now or formerly of Patrick Fitzpatrick ninety-nine and eighty-six hundredths (99.86) feet; thence north $18^{\circ} 59'$ west by land of Mary A. and Susan E. Tyler eighty and three hundredths (80.03) feet to the place of beginning. Said parcel contains seven thousand nine hundred six (7,906) square feet, more or less, and is supposed to be subject to an easement for a right of way known as Middlesex Park; said parcel is supposed to belong to Deborah Boudreau of Lowell.

Parcel 6. — Beginning at a point on the southerly boundary of land of the Nashua and Lowell Railroad Corporation distant south $18^{\circ} 59'$ east thirty-two (32) feet from a point distant one hundred six and eighty-four hundredths (106.84) feet south $78^{\circ} 09'$ west from station 1441+21.14 on the center line of location of the Nashua and Lowell Railroad Corporation and running easterly in a line curving to the left having a radius of five thousand thirty-three (5,033) feet, by land of the Nashua and Lowell Railroad Corporation fifty-seven and sixty-five hundredths (57.65) feet; thence north $75^{\circ} 55' 40''$ east still by land of said railroad thirty-nine and

eighty-two hundredths (39.82) feet; thence south $20^{\circ} 21' 30''$ east by land of Joseph F. Cote forty-three and forty-six hundredths (43.46) feet; thence south $69^{\circ} 38' 30''$ west by land of Deborah Boudreau ninety-seven and eighty hundredths (97.80) feet; thence north $18^{\circ} 59'$ west by land of Mary A. and Susan E. Tyler and land of Boston and Maine Railroad fifty-seven and thirty-seven hundredths (57.37) feet to the place of beginning. Said parcel contains four thousand seven hundred forty-seven (4,747) square feet, more or less, and is supposed to be subject to an easement for a right of way known as Middlesex Park; said parcel is supposed to belong to Isaie Gouthier of Lowell.

Parcel 7. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $18^{\circ} 59'$ east forty-six and fourteen hundredths (46.14) feet from a point distant one hundred six and eighty-four hundredths (106.84) feet south $78^{\circ} 09'$ west from Station 1441+21.14 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $18^{\circ} 59'$ east by land of Isaie Gouthier and land of Deborah Boudreau one hundred twenty-three and twenty-six hundredths (123.26) feet; thence south $69^{\circ} 38' 30''$ west by land of Mary A. and Susan E. Tyler two hundred sixty-four and sixty-six hundredths (264.66) feet; thence north $3^{\circ} 33' 53''$ east by land of Samuel P. Hadley and land of Boston and Maine Railroad one hundred sixteen and eighteen hundredths (116.18) feet; thence north $82^{\circ} 57' 45''$ east by land of the Boston and Maine Railroad eighty-two and fifteen hundredths (82.15) feet; thence north $4^{\circ} 40' 45''$ east still by land of said railroad fifty-nine and ninety-eight hundredths (59.98) feet; thence north $14^{\circ} 32'$ east by land of Nashua and Lowell Railroad Corporation twelve and forty-two hundredths (12.42) feet; thence north $82^{\circ} 34'$ east by land of Boston and Maine Railroad one hundred eleven and seventy-four hundredths (111.74) feet to the place of beginning. Said parcel contains twenty-eight thousand eight hundred seventy-three (28,873) square feet, more or less, supposed to be subject to an easement for a right of way known as Baldwin Street formerly known as Old Ferry Road and is supposed to belong to Mary A. and Susan E. Tyler of Lowell.

Parcel 8. — Beginning at a point in the southerly boundary of land of the Boston and Maine Railroad distant south $4^{\circ} 24'$ east one hundred sixty-six and eight hundredths (166.08) feet from Station 1448+82.70 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $83^{\circ} 45'$ east by land of the Boston and Maine Railroad four hundred forty-six and seventy hundredths (446.70) feet; thence south $3^{\circ} 33' 53''$ west by land of Mary A. and Susan E. Tyler one hundred twenty-six and seventy-four hundredths (126.74) feet; thence south $69^{\circ} 00' 52''$ west by land of Samuel P. Hadley four hundred forty-eight and twenty hundredths (448.20) feet; thence north $4^{\circ} 24'$ west by land of Channing A. Frost two hundred thirty-nine and three hundredths (239.03) feet to the place of beginning. Said parcel contains seventy-nine thousand two hundred thirty-two (79,232) square feet, more or less, supposed to be subject to an easement for a right of way known as Baldwin

Street formerly known as Old Ferry Road and is supposed to belong to Samuel P. Hadley of Lowell.

Parcel 9. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $4^{\circ} 24'$ east one hundred sixty-six and eight hundredths (166.08) feet from station 1448+82.70 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $4^{\circ} 24'$ east by land of Samuel P. Hadley two hundred thirty-nine and three hundredths (239.03) feet; thence south $69^{\circ} 00' 52''$ west by land of Channing A. Frost three hundred ten and six hundredths (310.06) feet; thence north $6^{\circ} 58' 40''$ west by land of Sarah Stack and land of the Boston and Maine Railroad two hundred forty-two and forty-nine hundredths (242.49) feet; thence north $70^{\circ} 08'$ east by land of said Boston and Maine Railroad three hundred nineteen and seventy-three hundredths (319.73) feet to the place of beginning. Said parcel contains seventy-three thousand three hundred nine (73,309) square feet, more or less, and is supposed to belong to Channing A. Frost of Lowell.

Parcel 10. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $6^{\circ} 58' 40''$ west three hundred forty-one and twenty-seven hundredths (341.27) feet from station 1452+01.88 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $6^{\circ} 58' 40''$ east by land of Channing A. Frost one hundred forty-two and fifty-four hundredths (142.54) feet; thence south $69^{\circ} 00' 52''$ west by land of Sarah Stack one hundred fifty-five and eighteen hundredths (155.18) feet; thence north $7^{\circ} 06' 10''$ west by land of Fisher H. Pearson one hundred eighty-two and two hundredths (182.02) feet; thence north $83^{\circ} 45'$ east by land of the Boston and Maine Railroad one hundred fifty and ninety-seven hundredths (150.97) feet to the place of beginning. Said parcel contains twenty-four thousand four hundred sixty-nine (24,469) square feet, more or less, and is supposed to belong to Sarah Stack of Lowell.

Parcel 11. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $6^{\circ} 29' 30''$ east three hundred forty-one and twenty-five hundredths (341.25) feet from station 1455+09.16 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $83^{\circ} 45'$ east by land of the Boston and Maine Railroad one hundred fifty-nine and twenty-two hundredths (159.22) feet; thence south $7^{\circ} 06' 10''$ east by land of Sarah Stack two hundred one and twenty hundredths (201.20) feet; thence south $83^{\circ} 45'$ west by land of Fisher H. Pearson one hundred sixty-one and thirty-seven hundredths (161.37) feet; thence north $6^{\circ} 29' 30''$ west by land of Joseph H. Clough two hundred one and eighteen hundredths (201.18) feet to the place of beginning. Said parcel contains thirty-two thousand two hundred forty-eight (32,248) square feet, more or less, and is subject to a mortgage supposed to be held by the Old Ladies Home of Lowell, dated October 6, 1893, recorded with Middlesex North District Deeds, Book 248, page 473; said parcel is supposed to belong to Fisher H. Pearson of Lowell.

Parcel 12. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $6^{\circ} 29' 30''$ east three hundred forty-one and twenty-five hundredths (341.25) feet from station 1455+09.16 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $6^{\circ} 29' 30''$ east by land of Fisher H. Pearson two hundred one and eighteen hundredths (201.18) feet; thence south $83^{\circ} 45'$ west by land of Joseph H. Clough one hundred fifty-nine and sixty-one hundredths (159.61) feet; thence north $6^{\circ} 29' 30''$ west by land of Jerry and Marie LaFrance and land of Lillie S. Cutler two hundred one and eighteen hundredths (201.18) feet; thence north $83^{\circ} 45'$ east by land of the Boston and Maine Railroad one hundred fifty-nine and sixty-one hundredths (159.61) feet to the place of beginning. Said parcel contains thirty-two thousand one hundred (32,100) square feet, more or less, and is supposed to belong to Joseph H. Clough of Lowell.

Parcel 13. — Beginning at a point on the easterly side of a private way known as Edwards street distant south $6^{\circ} 28'$ east three hundred ninety-two and eighty-five hundredths (392.85) feet from station 1457+78.79 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $83^{\circ} 32'$ east by land of Lillie S. Cutler one hundred ten and nineteen hundredths (110.19) feet; thence south $6^{\circ} 29' 30''$ east by land of Joseph H. Clough one hundred fifty (150) feet; thence south $83^{\circ} 32'$ west by land now or formerly of Estella H. Bartlett one hundred ten and twenty-five hundredths (110.25) feet; thence north $6^{\circ} 28'$ west by land of Orestes M. Pratt one hundred fifty (150) feet to the place of beginning. Said parcel contains sixteen thousand five hundred thirty-three (16,533) square feet, more or less, and is subject to a mortgage supposed to be held by the Mechanics Savings Bank in Lowell, dated February 1, 1916, recorded with Middlesex North District Deeds, Book 550, page 330; said parcel is supposed to belong to Jerry and Marie LaFrance of Lowell.

Parcel 14. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $6^{\circ} 28'$ east three hundred forty-two and eighty-five hundredths (342.85) feet from station 1457+78.79 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $83^{\circ} 32'$ east by land of the Boston and Maine Railroad one hundred ten and seventeen hundredths (110.17) feet; thence south $6^{\circ} 29' 30''$ east by land of Joseph H. Clough fifty (50) feet; thence south $83^{\circ} 32'$ west by land of Jerry and Marie LaFrance one hundred ten and nineteen hundredths (110.19) feet; thence north $6^{\circ} 28'$ west by land of Orestes M. Pratt fifty (50) feet to the place of beginning. Said parcel contains five thousand five hundred nine (5,509) square feet, more or less, and is supposed to belong to Lillie S. Cutler of Lowell.

Parcel 15. — Beginning at a point on the southerly boundary of land of the Boston and Maine Railroad distant south $6^{\circ} 28'$ east three hundred forty-two and eighty-five hundredths (342.85) feet from station

1457+78.79 on the center line of location of the Nashua and Lowell Railroad Corporation and running south $6^{\circ} 28'$ east by land of Lillie S. Cutler and land of Jerry and Marie LaFrance two hundred (200) feet; thence south $83^{\circ} 32'$ west by land of Orestes M. Pratt forty (40) feet; thence north $6^{\circ} 28'$ west by land of Ayer Mills two hundred (200) feet; thence north $83^{\circ} 32'$ east by land of Boston and Maine Railroad forty (40) feet to the place of beginning. Said parcel contains eight thousand (8,000) square feet, more or less, and is supposed to be subject to an easement for a right of way known as Edwards Street; said parcel is supposed to belong to Orestes M. Pratt of Holderness, N. H.

Parcel 16. — Beginning at a point on the southerly boundary of land of the Nashua and Lowell Railroad Corporation distant south $6^{\circ} 28'$ east forty-one and twenty-five hundredths (41.25) feet from station 1464+18.79 on the center line of location of the Nashua and Lowell Railroad Corporation, and running north $83^{\circ} 45'$ east by land of the Nashua and Lowell Railroad Corporation six hundred (600) feet to a private way known as Edwards Street; thence south $6^{\circ} 28'$ east by said Edwards Street sixty-two and fifty hundredths (62.50) feet; thence south $83^{\circ} 45'$ west by land of Ayer Mills six hundred (600) feet; thence north $6^{\circ} 28'$ west by other land of said Ayer Mills sixty-two and fifty hundredths (62.50) feet to the place of beginning. Said parcel contains thirty-seven thousand five hundred (37,500) square feet, more or less, and is supposed to belong to Ayer Mills, a Massachusetts corporation.

Parcel 17. — Beginning at a point distant south $6^{\circ} 28'$ east three hundred thirteen and twenty-five hundredths (313.25) feet from station 1464+18.79 on the center line of location of the Nashua and Lowell Railroad Corporation and running north $83^{\circ} 45'$ east by other land of the said Ayer Mills six hundred (600) feet thence south $6^{\circ} 28'$ east by land of Boston and Maine Railroad and land of Orestes M. Pratt three hundred forty-one and fifty-eight hundredths (341.58) feet to a stone bound; thence north $88^{\circ} 40' 53''$ west by land now or formerly of Clayton B. Stoddard and land of Addie E. Cashin and land of Thomas J. Roche six hundred sixty-seven and sixty-nine hundredths (667.69) feet; thence north $8^{\circ} 36' 37''$ east by other land of said Ayer Mills two hundred thirty-six and fifty-five hundredths (236.55) feet; thence north $6^{\circ} 28'$ west still by other land of said Ayer Mills twenty-five (25) feet to the place of beginning. Said parcel contains one hundred eighty-eight thousand three hundred five (188,305) square feet, more or less, and is supposed to belong to Ayer Mills, a Massachusetts corporation.

Parcel 18. — Beginning at a point on the northerly line of Middlesex Street on the dividing line between land of Addie E. Cashin and land of Thomas J. Roche and running north $4^{\circ} 19' 01''$ east by land of Thomas J. Roche three hundred fourteen and fifty-four hundredths (314.54) feet; thence south $88^{\circ} 40' 53''$ east by land of Ayer Mills three hundred sixty and twenty hundredths (360.20) feet; thence south $2^{\circ} 40' 53''$ west by land now or formerly of Clayton B. Stoddard three hundred nine and five hundredths (309.05) feet; thence westerly by Middlesex Street in a

line curving to the right having a radius of eight hundred eleven and forty-five hundredths (811.45) feet, seventy and seven hundredths (70.07) feet to a stone bound; thence north $89^{\circ} 36' 15''$ west by said Middlesex Street two hundred seventy-three and sixteen hundredths (273.16) feet; thence westerly by said Middlesex Street in a line curving to the right having a radius of four hundred eighteen and forty-eight hundredths (418.48) feet, fifty-five and seventeen hundredths (55.17) feet to the place of beginning. Said parcel contains one hundred nineteen thousand one hundred forty-eight (119,148) square feet, more or less, and is supposed to belong to Addie E. Cashin of Lowell.

Parcel 19. — Beginning at a point on the northerly line of Middlesex Street on the dividing line between land of Thomas J. Roche and land of Addie E. Cashin and running westerly by Middlesex Street in a line curving to the right having a radius of four hundred eighteen and forty-eight hundredths (418.48) feet; thirty-four and forty-nine hundredths (34.49) feet; thence north $77^{\circ} 19' 45''$ west by said Middlesex Street fifteen and fifty-one hundredths (15.51) feet; thence north $8^{\circ} 36' 37''$ east by other land of the said Thomas J. Roche three hundred eight and sixteen hundredths (308.16) feet; thence south $88^{\circ} 40' 53''$ east by land of Ayer Mills twenty-six and fifty-five hundredths (26.55) feet; thence south $4^{\circ} 19' 01''$ west by land of Addie E. Cashin three hundred fourteen and fifty-four hundredths (314.54) feet to the place of beginning. Said parcel contains eleven thousand eight hundred seventy-three (11,873) square feet, more or less, and is subject to a mortgage supposed to be held by James C. Ayer dated May 27, 1874, recorded with Middlesex North District Deeds, Book 102, page 381; said parcel is supposed to belong to Thomas J. Roche of Lowell.

All of said parcels of land are supposed to be subject to certain flowage rights held by Proprietors of Locks and Canals on Merrimack River, and are shown within lines marked in red upon a plan of two sheets entitled "Land in Lowell, Mass., supposed to belong to Wilhelmina and Paula Mendlik, Harriet S. Smith, The Costikyan Carpet Corporation, Joseph F. Cote, Isaie Gauthier, Deborah Boudreau, Mary A. and Susan E. Tyler, Samuel P. Hadley, Channing A. Frost, Sarah Stack, Fisher H. Pearson, Joseph H. Clough, Jerry and Marie LaFrance, Lillie S. Cutler, Orestes M. Pratt, the Ayer Mills, Addie E. Cashin, Thomas J. Roche, required by the Nashua and Lowell Railroad Corporation for railroad purposes," dated May, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

AUGUST 7, 1918. [P. S. C. 2220]

Commissioners.

Petition of the New York, New Haven and Hartford Railroad Company that the Commission prescribe the limits within which certain land in South Boston may be taken for railroad purposes.

Upon the petition of the New York, New Haven and Hartford Railroad Company, filed June 6, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the South Boston district of the city of Boston, in the county of Suffolk in the commonwealth of Massachusetts, outside the limits of its route already fixed in said city, for the purpose of making and securing its railroad and for depot or station purposes, and for one or more new tracks adjacent to other land occupied by it by tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on August 8, 1918.

All persons appearing at the hearing as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said New York, New Haven and Hartford Railroad Company requires additional land in South Boston for the purpose of making and securing its railroad and for depot or station purposes and for one or more new tracks adjacent to other land occupied by it by tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit: —

A parcel of land situated in the South Boston district of the city of Boston, county of Suffolk and commonwealth of Massachusetts, bounded and described as follows: —

Beginning at a point in the northeasterly street line of West Fourth Street distant fifteen (15) feet northerly from station 58+26.33 of the monumented center line of location of the said Railroad Company, said distance being measured on a line bearing N. 48° 57' 30" W., true bearing; thence northwest by said West Fourth Street twenty-five (25) feet; thence N. 41° 12' 00" E. in part by land now or formerly of Mary Carmill and in part by land now or formerly of Michael J. and Bridget A. Nee

seventy-two (72) feet; thence S. 48° 57' 30" E. in part by said land now or formerly of Michael J. and Bridget A. Nee, in part by land now or formerly of Michael J. Nee and in part by land of the said Railroad Company twenty-five (25) feet to a point distant fifteen (15) feet north-westerly at right angles from said monumented center line; thence S. 41° 12' 00" W. by land of the said Railroad Company seventy-two (72) feet, more or less, to the point of beginning: said parcel contains eighteen hundred (1,800) square feet and is supposed to belong to Harry E. Mapes of Cohasset, Norfolk county, Massachusetts.

The said parcel of land is shown within lines marked in yellow upon a plan entitled "The New York, New Haven and Hartford Railroad Co., Additional Land Required for Railroad Purposes, Boston, Mass.," dated May 29, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

AUGUST 9, 1918.

[P. S. C. 2155]

Commissioners.

Petition of the New York, New Haven and Hartford Railroad Company that the Commission prescribe the limits within which certain land in Walpole may be taken for railroad purposes.

Upon the petition of the New York, New Haven and Hartford Railroad Company, filed September 3, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the town of Walpole in the county of Norfolk in the commonwealth of Massachusetts, outside the limits of its route already fixed in said town, for the purpose of making or securing its railroad, or for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owner or owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on September 26, 1918, at which Arthur W. Blackman appeared for the petitioner and Arthur Francis Clapp, a certain landowner, also appeared.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the New York, New Haven and Hartford Railroad Company requires additional land in Walpole for the purpose of making or securing its railroad, or for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owner, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit:—

Two parcels of land situated in Walpole, in the county of Norfolk and the commonwealth of Massachusetts, bounded and described as follows:—

Parcel 1.—To be acquired of the heirs of Simeon Clapp. Beginning at a point in the present northerly line of land of the New York, New Haven and Hartford Railroad Company, said point being distant forty-eight (48) feet northerly measured radially from station 1020+99.39 of the monumented center line of the railroad of the said New York, New Haven and Hartford Railroad Company; thence N. $6^{\circ} 30' 19''$ W. by land now or formerly of the heirs of Simeon Clapp twelve and ninety-five hundredths (12.95) feet, more or less, to a point distant sixty (60) feet northerly measured radially from said monumented center line; thence easterly on a curved line having a radius of five thousand six hundred sixty-nine and sixty-five hundredths (5,669.65) feet by land now or formerly of Simeon Clapp three hundred fifty and sixty-five hundredths (350.65) feet, more or less, to a point distant sixty (60) feet northerly measured radially from station 1023+40.09 of said monumented center line; thence N. $63^{\circ} 29' 22''$ E. by land of Joseph and Alfonso Maraini forty-six and sixty-eight hundredths (46.68) feet; thence N. $55^{\circ} 40' 8''$ E. by land of Joseph and Alfonso Maraini one hundred twenty and seven tenths (120.7) feet to land of the New York, New Haven and Hartford Railroad Company; thence S. $20^{\circ} 40' 23''$ E. by land of the New York, New Haven and Hartford Railroad Company fifteen and forty-four hundredths (15.44) feet to a point distant forty-two (42) feet northerly measured radially from station 1021+74.88 of the monumented center line of the railroad; thence S. $55^{\circ} 40' 8''$ W. by land of the New York, New Haven and Hartford Railroad Company one hundred eighteen and eight hundredths (118.08) feet; thence S. $63^{\circ} 29' 22''$ W. by land of the New York, New Haven and Hartford Railroad Company ninety-nine and seventy-two hundredths (99.72) feet; thence S. $59^{\circ} 14' 3''$ W. by land of the New York, New Haven and Hartford Railroad Company one hundred ninety-eight and twenty-five hundredths (198.25) feet; thence S. $59^{\circ} 40' 3''$ W. by land of the New York, New Haven and Hartford Railroad Company one hundred four and seven tenths (104.7) feet, more or less, to the point of beginning: containing

six thousand one hundred and sixty-seven (6,167) square feet, and including all the right, title and interest of the said heirs of Simeon Clapp in and to a right of way over the said premises.

Parcel 2. — To be acquired of Joseph and Alfonso Maraini. Beginning at a point in the northerly line of the first parcel herein described at a point distant sixty (60) feet northerly measured radially from station 1023+40.09 of the monumented center line of the New York, New Haven and Hartford Railroad Company; thence easterly on a curved line having a radius of five thousand six hundred sixty-nine and sixty-five hundredths (5,669.65) feet by land of Joseph and Alfonso Maraini one hundred sixty-seven and seventy-one hundredths (167.71) feet, more or less, to a point in the present division line between land of Joseph and Alfonso Maraini and land of the New York, New Haven and Hartford Railroad Company, said last described point being distant sixty (60) feet northerly measured radially from the said monumented center line; thence S. 20° 40' 23" E. by land of the New York, New Haven and Hartford two and ninety-eight hundredths (2.98) feet; thence S. 55° 40' 8" W. by land now or formerly of Simeon Clapp one hundred twenty and seven tenths (120.7) feet; thence S. 63° 29' 22" W. by land now or formerly of the heirs of Simeon Clapp forty-six and sixty-eight hundredths (46.68) feet to the point of beginning; containing five hundred fifty-eight (558) square feet, and including all right, title and interest of the said Joseph and Alfonso Maraini in and to a right of way over the first parcel herein described.

The said parcels of land are shown within lines marked in yellow upon a plan entitled "The New York, New Haven and Hartford Railroad Co. Additional land required for railroad purposes, Walpole, Mass.," dated "Boston, April 13, 1918," signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

SEPTEMBER 30, 1918.

[P. S. C. 2264]

Commissioners.

Petition of the New York, New Haven and Hartford Railroad Company that the Commission prescribe the limits within which certain land in the town of West Stockbridge may be taken for railroad purposes.

Upon the petition of the New York, New Haven and Hartford Railroad Company, filed July 2, 1918, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chapter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within

which it may take certain land for railroad purposes in the town of West Stockbridge, in the county of Berkshire in the commonwealth of Massachusetts, outside the limits of its route already fixed in said town, for the purpose of making and securing its railroad and for depot or station purposes and for one or more new tracks adjacent to other land occupied by it by tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to all parties known to be interested therein, by publication and by posting notice thereof upon said land and in a public place in said town, and also by serving by copy on the town of West Stockbridge, in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on August 8, 1918.

All persons appearing at the hearing held as aforesaid having been heard, and it appearing that the owner or owners of the land hereinafter described are unknown and cannot now be ascertained by diligent inquiry, that said land is unimproved and unoccupied and that further notice either personal or by mail cannot be given to the owner or owners thereof; and it further appearing that there is an immediate necessity for additional facilities for increased track arrangements and engine accommodations which will be provided if said land can be utilized for such railroad purposes, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said New York, New Haven and Hartford Railroad Company requires additional land in the town of West Stockbridge, for the purpose of making and securing its railroad and for depot or station purposes and for one or more new tracks adjacent to other land occupied by it by tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed in so far as the Commission has the authority that such land may be taken as by law provided within the following limits, to wit:—

Two parcels of land belonging to a person or persons unknown, situated in the town of West Stockbridge, in the county of Berkshire and commonwealth of Massachusetts, and bounded and described as follows:—

Parcel 1.—Beginning at a point in the northeasterly side line of location of the New York, New Haven and Hartford Railroad Company, formerly of the West Stockbridge Railroad Company, distant thirty-one and seventy-one hundredths (31.71) feet northeasterly at right angles from station 499+45.70 of the monumented center line of the said Railroad Company; thence south 65° 37' 11" east by land of the Boston and Albany Railroad Company eight hundred twenty-six and six-tenths

(826.6) feet to a rail bound in the northerly line of a highway known as "Stickles crossing;" thence south $35^{\circ} 27' 45''$ west by said highway one hundred twenty and ninety-nine hundredths (120.99) feet more or less, to a point in the said northeasterly side line of location distant thirty and three-tenths (30.3) feet northeasterly at right angles from station 491+33.63 of said center line; thence north $57^{\circ} 12' 45''$ west by land of the New York, New Haven and Hartford Railroad Company eight hundred twelve and seven one-hundredths (812.07) feet, more or less, to the point of beginning; containing one and fourteen hundredths (1.14) acres.

Parcel 2. — Beginning at a point in the westerly line of a highway known as "Stickles crossing" distant thirty and three-tenths (30.3) feet northeasterly at right angles from station 491+33.63 of the monumented center line of the said railroad company; thence north $35^{\circ} 27' 43''$ east by the first parcel herein described one hundred twenty and ninety-nine hundredths (120.99) feet to a rail bound at land of the Boston and Albany Railroad Company; thence south $54^{\circ} 32' 17''$ east across said highway thirty-three (33) feet to land of the New York, New Haven and Hartford Railroad Company, formerly of the estate of Simon Stickles; thence south $35^{\circ} 27' 43''$ west by land of the said Railroad Company one hundred nineteen and forty-four hundredths (119.44) feet more or less to a point in the said northeasterly side line of location distant thirty and twenty-five hundredths (30.25) feet northeasterly at right angles from station 491+00.47 of said center line; thence north $57^{\circ} 12' 45''$ west by land of the said Railroad Company thirty-three and sixteen hundredths (33.16) feet, more or less, to the point of beginning; containing nine one-hundredths (.09) acres.

The said parcels of land are shown within lines marked in yellow upon a plan entitled "The New York, New Haven and Hartford Railroad Company, Additional Land Required for Railroad Purposes, West Stockbridge, Mass.," dated June 24, 1918, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
JOSEPH B. EASTMAN,
EVERETT E. STONE,

AUGUST 14, 1918. [P. S. C. 2210]

Commissioners.

Petition of the Stony Brook Railroad Corporation that the Commissioners prescribe the limits within which certain land in the town of Chelmsford may be taken for railroad purposes.

Upon the petition of the Stony Brook Railroad Corporation, filed November 21, 1917, under the provisions of section 78 of Part II of chapter 463 of the Acts of 1906, as amended by chap-

ter 157 of the General Acts of 1915, praying that the Public Service Commission prescribe the limits within which it may take certain land for railroad purposes in the town of Chelmsford in the county of Middlesex in the commonwealth of Massachusetts, outside the limits of its route already fixed in said town, for the purpose of making and securing its railroad, or for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, due notice of the above petition and of the time and place of hearing thereon has been given to the owners of said land and to other parties interested therein, in the manner prescribed by law and in accordance with the order of notice issued on said petition, and a hearing on said petition has been given on December 10, 1917.

All persons appearing at the hearing held as aforesaid having been heard, and the subject matter of said petition having been duly considered, it is now determined and adjudged that the said Stony Brook Railroad Corporation requires additional land in Chelmsford for the purpose of making and securing its railroad, or for depot or station purposes, or for one or more new tracks adjacent to other land occupied by it by a track or tracks already in use, and is unable to obtain the same by agreement with the owners, and it is further determined, ordered and decreed that such land may be taken as by law provided within the following limits, to wit:—

A parcel of land situated in the town of Chelmsford, county of Middlesex and commonwealth of Massachusetts, bounded and described as follows:—

Beginning at a stone monument on the northeasterly line of Middlesex street, distant southeasterly thirty-three and twenty-nine one-hundredths (33.29) feet from station 688+65 in the center line of location of the Stony Brook railroad, measured along the northeasterly line of Middlesex street, thence running in a northeasterly direction by land of the Stony Brook Railroad Corporation one hundred twenty-one and ninety-three one-hundredths (121.93) feet to a stake; thence south 40° 40' 30" east by land of Ellen O'Connor thirty-one and twenty-two one-hundredths (31.22) feet, thence in a southerly direction in a line curving to the left, having a radius of eight hundred ninety-five and thirty-seven one-hundredths (895.37) feet by remaining land of John H. O'Connor, George J. Brennan and Maria Qualey, one hundred eleven and seven-tenths (111.7) feet to the northeasterly line of Middlesex street; thence north 58° 33' 00" west by the northeasterly line of Middlesex street, thirty-three and fifty-five one-hundredths (33.55) feet to the place of beginning; contain-

ing thirty-five hundred and five (3,505) square feet, more or less, and supposed to belong to John H. O'Connor, George J. Brennan and Maria Qualey.

The said parcel of land is shown within lines marked in yellow upon a plan entitled "Land in Chelmsford, Mass., belonging to John H. O'Connor, George J. Brennan and Maria Qualey, required by the Stony Brook Railroad Corporation for Railroad Purposes," dated October, 1917, and signed by us and filed herewith.

FREDERICK J. MACLEOD,
EVERETT E. STONE,
JOHN F. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

JANUARY 14, 1918.

[P. S. C. 1937]

Commissioners.

Petition of the Union Freight Railroad Company for approval of location in Atlantic avenue in Boston.

After public notice and hearing and full consideration, —

It is

Ordered, That the approval of the Commission be hereby given to the grant of location and rights to the Union Freight Railroad Company in the city of Boston, established under an order of the board of street commissioners of the City of Boston dated January 7, 1918, a copy of which order, with accompanying plan, is on file in this office, as follows: —

In Boston — 21st location: Location for a single curve track, extending from existing tracks of the Union Freight railroad in Atlantic avenue at a point about 120 feet southerly from the southerly line of a private way leading to Lewis wharf, produced, and running northerly curving westerly to the side line of Atlantic avenue at a point about 30 feet southerly from said southerly line of private way leading to Lewis wharf.

And the Commission certifies that the above-named grant of location is consistent with the public interests.

This approval is given upon the condition that the crossing of the proposed track, as above described, of the Union Freight railroad over the tracks of the West End street railway (Boston Elevated Railroad Company, lessee) located in Atlantic avenue shall be constructed and maintained by the petitioner at its own

expense and in a manner satisfactory to the Boston Elevated Railway Company, or, if the parties do not agree, in such manner as the Commission shall prescribe.

Attest: ANDREW A. HIGHLANDS,
JANUARY 25, 1918. [P. S. C. 2045] Secretary.

Petition of the Union Freight Railroad Company for approval of location in Atlantic avenue and Northern avenue in the city of Boston.

After public notice and hearing and full consideration, —
It is

Ordered, That the approval of the Commission be hereby given to the grant of location and rights to the Union Freight Railroad Company in the city of Boston, established under orders and regulations of the board of street commissioners of said city dated March 9, 1918, copies of which orders and regulations, with accompanying plan, are on file in this office, as follows: —

In Boston — 22nd location: Location for a single track extending from the main line track of the Union Freight railroad in Atlantic avenue at a point about seventy-five (75) feet northerly from the northerly line of Northern avenue extended, thence running by a suitable curve in Atlantic avenue and Northern avenue to a point in the center of Northern avenue, thence along the center of Northern avenue to a connection with a track of the New York, New Haven and Hartford railroad at a point on the easterly side of Fort Point channel.

And the Commission certifies that the above-named grant of location is consistent with the public interests.

This approval is given upon the condition that the crossing of the proposed track, as above described, of the Union Freight railroad over the tracks of the West End street railway (Boston Elevated Railway Company, lessee) located in Atlantic avenue shall be constructed and maintained by the petitioner at its own expense and in a manner satisfactory to the Boston Elevated Railway Company, or, if the parties do not agree, in such manner as the Commission shall prescribe.

Attest: ANDREW A. HIGHLANDS,
APRIL 9, 1918. [P. S. C. 2089] Secretary.

Petition of the New York, New Haven and Hartford Railroad Company for determination as to the manner of constructing and operating additional tracks across Northern avenue at grade in the city of Boston.

After notice and hearing it appearing that the petition is presented under provision of chapter 381 of the Acts of 1903, and that favorable action thereon is consistent with the public interest, — it is

Ordered, That the consent of the Commission be hereby given to the construction and operation by the petitioner of a railroad track to be operated by steam power, upon and across the way known as Northern avenue in South Boston, as shown upon plan on file with the petition, entitled, "Proposed Track Crossing Northern Ave. at Pier No. 4, Boston, Mass.," dated November 6, 1917. The restrictions pertaining to the construction and operation of the proposed track shall be the same as those prescribed in the order of the Board of Railroad Commissioners under date of December 18, 1908, issued upon the petition of the New York, New Haven and Hartford Railroad Company for determination of location of railroad tracks upon Northern avenue in the city of Boston.

Attest: ANDREW A. HIGHLANDS,
MARCH 22, 1918. [P. S. C. 1972] Secretary.

STREET RAILWAY LOCATIONS.

Petition of the Norfolk and Bristol Street Railway Company for approval of relocations in the state highway in Norwood, Walpole and Wrentham.

At the hearing upon this petition the company stated that the proposed relocations were made necessary by changes in the grade of the state highways, and contended that the commonwealth should make a reasonable contribution toward the expense of the relocations. The hearing was closed upon the understanding that it would be reopened upon the request of the company if it desired to offer further evidence or argument in support of its contention. After further consideration the company finally waived its claim for a division of the expense. The state highways have now been changed to conform to the plans submitted, and the locations and grades of the tracks of the railway have been altered in substantial conformity with said plans.

After notice and hearing and full consideration, —

It is

Ordered, That the Commission hereby certify that locations and relocations of tracks of the Norfolk and Bristol street railway in sections of the state highway locally known as Walpole street in Norwood, Main street in Walpole, and East street in Wrentham, established under orders of the Massachusetts Highway Commission severally adopted December 7, 1915, copies of which orders, with accompanying plans, are on file in this office, are consistent with the public interests.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 27, 1918.

[P. S. C. 1283]

Secretary.

Petition of the Bay State Street Railway Company for permission to postpone the construction of the extension of its line in Varnum avenue in the city of Lowell.

Petition of the Bay State Street Railway Company for permission to postpone construction upon a location in the town of Arlington necessary for the establishment of a through route between Winchester and Harvard square.

Under date of September 12, 1916, the Commission ordered the Bay State Street Railway Company to proceed to build and operate an extension of its line in Varnum avenue in the city of Lowell, upon a location legally granted by the board of aldermen of said city. Under date of October 14, 1916, the Commission likewise issued an order requiring the establishment, by the Bay State Street Railway Company and the Boston Elevated Railway Company, of a through route for the transportation of passengers between Winchester and the Harvard square station of the Cambridge subway. This necessitated new construction upon locations which were refused by the selectmen of the town of Arlington but were subsequently granted by the Commission on May 18, 1917, under authority of section 25 of chapter 784 of the Acts of 1913, as amended by chapter 137 of the General Acts of 1916.

In the petitions now under consideration, the Bay State Street Railway Company requests permission to postpone the construction, in both of these cases, until conditions so change that the matter can be favorably considered. No similar petition has been presented by the Boston Elevated Railway Company in the Arlington case, but it is obvious that the through route cannot be established without joint action and construction by both companies, and that compliance with the order by one alone would be of no benefit to the public. The Bay State company gives, as its reason for the petitions, financial inability to carry on the necessary construction work.

When the orders were issued the company was not in good financial condition, and since that time the situation has grown worse rather than better. The company is now in the hands of a receiver and expected increases in revenue from various increases in rates have not as yet materialized. The Commission has delayed action upon the petitions in the hope that conditions might improve, but so far has been disappointed in this hope. Comparatively speaking, the expenditure of capital neces-

sary to comply with the orders would not be large in either case. No doubt the amount might in some way be secured and much of the material taken from existing supplies, but only at the expense of other and more necessary work. There can be no doubt as to the inability of the company at the present time to provide in any adequate way for reconstruction and betterment work which is essential to good service. More important, however, is the fact that the country is at war and that every effort is being made to conserve labor and material. State public service commissions have, indeed, been specifically requested not to order new construction work unnecessary to the prosecution of the war. The work involved in the orders under consideration would promote public *convenience* and ought eventually to be done, but it is not a matter of public *necessity* under present conditions. In view of the circumstances, we think it best to suspend the orders indefinitely, reserving the right to make them effective again under more favorable conditions when the war is over.

It is therefore

Ordered, That the order of the Commission in docket number 949, requiring the Bay State Street Railway Company to proceed to build and operate an extension of its line in Varnum avenue in the city of Lowell, and the order of the Commission in docket number 1692, requiring the establishment by the Bay State Street Railway Company and the Boston Elevated Railway Company of a through route for the transportation of passengers between Winchester and the Harvard square station of the Cambridge subway, be hereby suspended until otherwise ordered by the Commission.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 9, 1918.

[P. S. C. 949, 1692]

Secretary.

Petition of the West End Street Railway Company by the Boston Elevated Railway Company, its attorney, for approval of relocation of tracks in South Boston.

Memorandum.

This petition was filed on April 12, 1918, and requested the approval by the Commission of orders of the board of street com-

missioners of the city of Boston granting relocation of tracks of the West End street railway in E street, East Sixth and P streets and East Fourth street in South Boston, said orders being dated March 26, 1918, and known as the 511th, 512th and 513th locations, respectively. A hearing was held on this petition on May 17, 1918, following which an examination of the proposed relocation was made by an inspector of the Commission.

While the company realizes that this relocation work should be done, there is no immediate necessity for it. In view of this fact, the petition, with the consent of the petitioner, is placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 3, 1918.

[P. S. C. 2111]

Secretary.

MOTOR VEHICLES.

MOTOR VEHICLES SERVING AS COMMON CARRIERS.

To Mayors of Cities and Boards of Selectmen of Towns in Massachusetts.

Your attention is hereby called to the provisions of chapter 226 of the General Acts of the year 1918, and chapter 293 of the General Acts of the year 1916, respectively, which read as follows: —

GENERAL ACTS OF 1918, CHAPTER 226.

AN ACT TO PERMIT STREET RAILWAY COMPANIES TO USE MOTOR VEHICLES NOT RUNNING ON RAILS OR TRACKS, AND TO MAKE OPERATORS OF SUCH VEHICLES COMMON CARRIERS SUBJECT TO THE SUPERVISION OF THE PUBLIC SERVICE COMMISSION.

Be it enacted, etc., as follows:

SECTION 1. Any street railway company, with the approval of the public service commission, may acquire, own and operate for the transportation of passengers or freight motor vehicles not running upon rails or tracks.

SECTION 2. Every person, firm or corporation, including street railway companies, operating any such motor vehicle upon any public street or way for the carriage of passengers for hire in such a manner as to afford a means of transportation similar to that afforded by a street railway, by indiscriminately receiving and discharging passengers along the route on which the vehicle is operated or may be running, is hereby declared to be a common carrier, and shall in respect to the operation of such vehicle be subject to such orders, rules and regulations as have been or may from time to time be prescribed or adopted by the licensing authorities of any city or town which has accepted the provisions of chapter two hundred and ninety-three of the General Acts of nineteen hundred and sixteen. Any petitioner, or any street railway company aggrieved by such orders, rules or regulations, may appeal to the public service commission, whose decision, after notice to said licensing authorities and a hearing thereon if requested by such authorities, shall be final. Such appeal may be taken within thirty days from the time such orders, rules or regulations become effective, or in case the same have already become effective, within thirty days after the passage of this act. All orders, rules or regulations made, established or prescribed hereunder shall be enforced in the manner pro-

vided in section twenty-eight of chapter seven hundred and eighty-four of the acts of nineteen hundred and thirteen.

SECTION 3. In cities or towns that have not accepted the provisions of said chapter two hundred and ninety-three wherein a street railway exists, and wherein a line of motor vehicles has been established under the provisions of section one of this act, the public service commission shall have original jurisdiction over persons, firms or corporations mentioned in section two, and may prescribe rules and regulations until the city or town accepts the provisions of said chapter two hundred and ninety-three, whereupon original jurisdiction shall vest in the city or town, subject to appeal to the public service commission as provided in section two.

SECTION 4. This act shall take effect upon its passage. [*Approved May 24, 1918.*]

GENERAL ACTS OF 1916, CHAPTER 293.

AN ACT TO AUTHORIZE THE LICENSING BY CITIES AND TOWNS OF MOTOR VEHICLES CARRYING PASSENGERS FOR HIRE.

Be it enacted, etc., as follows:

SECTION 1. Cities and towns shall have authority to license and regulate the transportation of passengers for hire as a business between fixed and regular termini by means of any motor vehicle, except the trackless trolley vehicle, so-called, not running on tracks or rails and may impose reasonable license fees, make regulations for the operations of such vehicles within their own limits, and impose suitable penalties for the violation of such regulations: *provided, however*, that no such motor vehicle shall be operated as aforesaid until the licensee of the vehicle, in addition to complying with all regulations of the city or town in which the vehicle is to be operated, shall have deposited with the treasurer of any city or town in which a license has been taken out, security or bond or otherwise, approved by the city or town treasurer, in such sum as the city or town may reasonably require, conditioned to pay any final judgment obtained against the principal named in the bond for any injury to person or property, or damage for causing the death of any person, by reason of any negligent or unlawful act on the part of the principal named in said bond, his or its agents, employees or drivers, in the use or operation of any such vehicle. Any person so injured or damaged may sue on the bond in the name of the city or town treasurer, and damages so recovered shall go to the person injured or damaged.

SECTION 2. Nothing in this act shall be construed as requiring the licensee to file more than one bond, which shall be filed in any city or town in which a license has been taken out.

SECTION 3. This act shall take full effect in cities upon its acceptance by the city council, and in towns upon its acceptance by the voters of the town at any duly called town meeting. For the purpose of submitting this act to cities and to towns, it shall take effect upon its passage. [*Approved June 1, 1916.*]

In order that it may be in possession of information necessary for action under the provisions of said chapter 226 of the General Acts of the year 1918, the Commission desires to know: —

1. Whether your municipality has accepted the provisions of chapter 293 of the General Acts of the year 1916, as provided in section 3 of said chapter.

2. If such action has not been taken, whether motor vehicles are acting as common carriers of passengers for hire in such a manner as to afford a means of transportation similar to that afforded by a street railway in your municipality, with the names and addresses of the persons operating such vehicles, so far as they may be obtained.

An early response to this communication will be appreciated.

Respectfully yours,

ANDREW A. HIGHLANDS,

JUNE 3, 1918. [P. S. C. 2049-A]

Secretary.

OPERATION.

Petition of the Connecticut Valley Street Railway Company for approval of the operation of motor vehicles for the transportation of freight between Montague and Orange.

After notice and hearing and full consideration, —

It is

Ordered, That the Connecticut Valley Street Railway Company be hereby authorized to acquire and own and to operate for the transportation of freight, motor vehicles, not running upon rails or tracks, over and along the highway from Millers Falls to Orange, between the eastern terminus of the tracks of the Connecticut Valley Street Railway Company at Millers Falls in the town of Montague and the car barn of the Northern Massachusetts Street Railway Company in the town of Orange, in accordance with the provisions of chapter 226 of the General Acts of 1918, upon the understanding that the transportation of explosives shall be prohibited and that the facilities by which and the manner in which the business is conducted shall be subject to supervision and regulation by the Commission from time to time as the public interest may require.

Attest:

ALLAN BROOKS,

SEPTEMBER 21, 1918.

[P. S. C. 2148]

Assistant Secretary.

Petition of the Middlesex and Boston Street Railway Company for permission to acquire, own and operate for the transportation of passengers, motor vehicles not running upon rails or tracks, in accordance with chapter 226 of the General Acts of 1918.

This petition is brought under the provisions of chapter 226 of the General Acts of 1918, which reads as follows:—

SECTION 1. Any street railway company, with the approval of the public service commission, may acquire, own and operate for the transportation of passengers or freight motor vehicles not running upon rails or tracks.

SECTION 2. Every person, firm or corporation, including street railway companies, operating any such motor vehicle upon any public street or way for the carriage of passengers for hire in such a manner as to afford a means of transportation similar to that afforded by a street railway, by indiscriminately receiving and discharging passengers along the route on which the vehicle is operated or may be running, is hereby declared to be a common carrier, and shall in respect to the operation of such vehicle be subject to such orders, rules and regulations as have been or may from time to time be prescribed or adopted by the licensing authorities of any city or town which has accepted the provisions of chapter two hundred and ninety-three of the General Acts of nineteen hundred and sixteen. Any petitioner, or any street railway company aggrieved by such orders, rules or regulations, may appeal to the public service commission, whose decision, after notice to said licensing authorities and a hearing thereon if requested by such authorities, shall be final. Such appeal may be taken within thirty days from the time such orders, rules or regulations become effective, or in case the same have already become effective, within thirty days after the passage of this act. All orders, rules or regulations made, established or prescribed hereunder shall be enforced in the manner provided in section twenty-eight of chapter seven hundred and eighty-four of the acts of nineteen hundred and thirteen.

SECTION 3. In cities or towns that have not accepted the provisions of said chapter two hundred and ninety-three wherein a street railway exists, and wherein a line of motor vehicles has been established under the provisions of section one of this act, the public service commission shall have original jurisdiction over persons, firms or corporations mentioned in section two, and may prescribe rules and regulations until the city or town accepts the provisions of said chapter two hundred and ninety-three, whereupon original jurisdiction shall vest in the city or town, subject to appeal to the public service commission as provided in section two.

SECTION 4. This act shall take effect upon its passage. [Approved May 24, 1918.]

In the present instance the employees of the petitioner, the Middlesex and Boston Street Railway Company, are on strike and it is able to operate only a very few of its cars, to the great inconvenience of its patrons, especially the workmen who use the railway daily in going to and from their work. The company has no intention of engaging permanently in automobile operation, but believes that it can secure a certain number of motor busses for temporary use, and in this way accommodate some of its patrons whose need for transportation facilities is most urgent. It desires immediate action by the Commission to meet the existing emergency.

We think that the situation is clear and that there can be little doubt as to the course which the Commission ought to pursue. The public which the Middlesex and Boston Street Railway Company was created to serve is being deprived of transportation facilities which in many cases are greatly needed. Whatever may be the merits of the controversy with its employees, there is no good reason why the public should be permitted to suffer if in any way this can be avoided. If the company cannot operate street cars but can, to some extent at least, operate motor busses, in our judgment it ought to be permitted to do so.

It will be noted that the act above quoted does not contain the usual provision for "public notice and a hearing" prior to action by the Commission. Under ordinary circumstances, and if a permanent right to operate motor vehicles were desired, the Commission would consider a public hearing essential, whether or not required by the statute. In the present emergency, however, the value to the public of any action by the Commission is dependent upon the quickness with which it is taken, and no permanent right is desired.

The act also provides that the operation of motor vehicles by a street railway company shall be subject to such orders, rules and regulations as may from time to time be prescribed by the licensing authorities of any city or town which has accepted the provisions of chapter 293 of the General Acts of 1916, subject to review by this Commission. Where a city or town in which the vehicles are operated, however, has not accepted this act, the Commission has original jurisdiction in prescribing rules and regulations. In the present case some of the municipalities in which the electric lines of the company are located have accepted the act and some have not. In view of the temporary character of the operation, however, we do not think that it is necessary

for the Commission to lay down at this time any definite rules or regulations in those cases where it has original jurisdiction. The Inspection Department will be directed to keep the operation of the vehicles under observation and the Commission will be prepared to take such action as may from time to time seem necessary or desirable in the public interest.

It is therefore

Ordered, That the Middlesex and Boston Street Railway Company is hereby authorized, during the thirty days beginning September 1, 1918, but not thereafter, to acquire, own and operate for the transportation of passengers, motor vehicles not running upon rails or tracks in the cities and towns in which its railway lines are located and upon the routes which these lines follow, in accordance with the provisions of chapter 226 of the General Acts of 1918.

For the Commission,

ALLAN BROOKS,

AUGUST 31, 1918.

[P. S. C. 2261]

Assistant Secretary.

REGULATIONS.

Petition of the Massachusetts Northeastern Street Railway Company appealing from the regulations established by the town of Salisbury governing the operation of jitneys in that town.

Memorandum

Subsequent to the filing of this petition, a communication was received from the Massachusetts Northeastern Street Railway Company, dated October 5, 1918, requesting the withdrawal of the petition. The case is therefore placed on file.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 16, 1918.

[P. S. C. 2159]

Secretary.

OPERATION — RAILROAD.

Petition of the Board of Street Commissioners of the city of Boston for approval of regulations governing the operation of trains by the Union Freight Railroad Company.

At the hearing upon this petition, a member of the board of street commissioners of the city of Boston stated that, while the order of the board now submitted for approval is general in terms and is therefore to be construed as governing the operation of trains on all locations of the Union Freight Railroad Company, it was not intended to change or annul the regulations recently made by that board in its order of March 9, 1918, and approved by this Commission April 9, 1918, for the operation of cars and trains on Northern avenue, and he requested that any order of this Commission be made applicable to the operation of trains on Atlantic avenue only.

Objection was made by counsel for the Union Freight Railroad Company and by operating officials of the New York, New Haven and Hartford Railroad Company to this suggested change, on the ground that the regulations approved for the operation of cars and trains on Northern avenue do not permit daytime operation, while the regulations prescribed for Atlantic avenue permit such operation.

At a hearing before this Commission upon the petition of the Union Freight Railroad Company for approval of the location of tracks on Northern avenue, under date of March 27, 1918, counsel for the company stated, with reference to the regulations adopted by the board of street commissioners for the operation of trains on Northern avenue, that "those regulations are in accordance with what we agreed at the hearing, so it is entirely satisfactory and I suppose it is proper to submit them to you under the circumstances, without further petition. I would like to have them so considered with your acquiescence or approval."

It appears from this statement that the conditions prescribed for the operation of trains upon Northern avenue were at that time satisfactory to the company. The company has not as yet begun the operation of its trains on Northern avenue. If at any time it finds that the regulations imposed are inconsistent with

the public interest, it is at liberty to petition the board of street commissioners for a modification of the regulations.

It is therefore

Ordered, That the regulations of the Board of Street Commissioners of the city of Boston, adopted August 5, 1918, governing the operation of cars and trains of the Union Freight Railroad Company in the city of Boston are hereby approved, so far as they apply to the operation of the cars and trains of said company in Atlantic avenue, Commercial and Causeway streets.

By the Commission,

ANDREW A. HIGHLANDS,

SEPTEMBER 25, 1918.

[P. S. C. 2253]

Secretary.

Petition of the Board of Street Commissioners of the City of Boston for approval of regulations governing the operation of trains by the Union Freight Railroad Company in Boston.

After consideration, —

It is

Ordered, That the regulations of the board of street commissioners of the city of Boston, established by an order of said board adopted November 14, 1918, governing the operation of cars and trains of the Union Freight Railroad Company in Atlantic avenue, Commercial, Causeway and Lowell streets and in Northern avenue in the city of Boston, a copy of which order is on file in this office, are hereby approved.

It is

Further ordered, That the order of the Commission dated September 25, 1918, approving regulations of said board of street commissioners, adopted August 5, 1918, governing the operation of cars and trains of said company in Atlantic avenue, Commercial and Causeway streets in the city of Boston, is hereby revoked.

And it is

Further ordered, That so much of the order of the Commission dated April 9, 1918, approving certain orders of said board of street commissioners, adopted March 9, 1918, granting a location for tracks of the Union Freight Railroad Company in Northern avenue and Atlantic avenue in the city of Boston, as may be applicable to the operation of cars and trains in Northern avenue, is hereby revoked.

Attest:

ANDREW A. HIGHLANDS,

NOVEMBER 26, 1918.

[P. S. C. 2253]

Secretary.

OPERATION — STREET RAILWAY.

Petition of the Boston Elevated Railway Company for certificate preliminary to the operation of a section of its railway in the Dorchester Tunnel in South Boston.

Examination having been made of a section of the Boston Elevated railway in the Dorchester Tunnel in South Boston, —
It is

Ordered, That the Commission hereby certify that all laws have been complied with preliminary to the operation of a section of the Boston Elevated railway in the Dorchester Tunnel in South Boston, consisting of double tracks extending from a point approximately 400 feet from West Fifth street south of Broadway station to a point approximately 600 feet south of Andrew station, including one diamond crossover, the total length of said track, measured as single track, being about 8,845 feet, and that the railway appears to be in a safe condition for operation.

Attest: ANDREW A. HIGHLANDS,
JUNE 28, 1918. [P. S. C. 2173] Secretary.

Petition of the West End Street Railway Company, by the Boston Elevated Railway Company, its attorney, for certificate preliminary to the operation of sections of its railway in the South Boston district of Boston.

Examination having been made of sections of the West End street railway in the South Boston district of Boston, —
It is

Ordered, That the Commission hereby certify that all laws have been complied with preliminary to the operation of sections of the West End street railway in the South Boston district of Boston, consisting of track in Boston, Dorchester, Ellery and Southampton streets, Dorchester avenue, Andrew station and its approaches at Andrew square, the total length of said sections of track, measured as single track, being about 2,198 feet (about

1,503 feet being in the highway and about 695 feet being within the limits of the Andrew station and its approaches), and that the railway appears to be in a safe condition for operation.

Attest: ANDREW A. HIGHLANDS,
JUNE 28, 1918. [P. S. C. 2174] Secretary.

Petition of the Commission on Waterways and Public Lands for certificate preliminary to the operation of street railway tracks on the viaduct and ramp at the Commonwealth piers in the South Boston district of Boston.

Examination having been made of a section of street railway on the viaduct and ramp leading from Summer street to the Commonwealth piers in the South Boston district of Boston, for which a certificate preliminary to operation is asked by the Commission on Waterways and Public Lands, as provided in an agreement between said Commission and the Boston Elevated Railway Company, under the provisions of chapter 363 of the Special Acts of 1915, — it is

Ordered. That the Commission hereby certify that said section of street railway, consisting of double track extending from a connection with the Boston Elevated railway tracks on Summer street extension over the viaduct and ramp leading to the Commonwealth piers, the total length of said track, measured as single track, being about 1,973 feet, is in a safe condition for operation, and that said viaduct is of sufficient strength to carry 50-ton street railway cars.

Attest: CHARLES E. MANN,
FEBRUARY 16, 1918. [P. S. C. 2028] Executive Secretary.

SIGNALS — RAILROAD OR RAILWAY.

Petition of the Boston and Maine Railroad relative to the elimination of ball signals and the installation of interlocking plant at Winchendon.

After consideration, —

It is

Ordered, That the approval of the Commission be hereby given to the elimination of ball signals at the junction of the main track of the Cheshire branch of the Fitchburg division of the Boston and Maine railroad and the main track of the Ware River branch of the Boston and Albany railroad in Winchendon, and the substitution therefor of interlocking signals as shown upon a plan dated February 28, 1918, numbered 0.745, a copy of which plan is on file in this office.

Attest: CHARLES E. MANN,
MARCH 7, 1918. [P. S. C. 1696-C] *Executive Secretary*,

Petition of the Boston and Maine Railroad for further extension of time for the replacing of ball signals at certain points on its railroad.

After consideration, good cause having been shown, —

It is

Ordered, That the time for replacing the so-called “ball signals” at Ayer (east of station), at Winchendon, and upon the Mystic Branch and at Mystic Wharf in Charlestown, be hereby extended to July 1, 1919, and that the approval of the Commission be hereby given to the operation of such signals at the above-named points until said date.

Attest: ANDREW A. HIGHLANDS,
MAY 15, 1918. [P. S. C. 570] *Secretary*.

SPEED OF CARS — STREET RAILWAY.

Petition of the City Council of Salem for approval of regulations governing the speed of street railway cars in that city.

After notice and hearing, a conference between the mayor of Salem and representatives of the Bay State Street Railway Company and this Commission, and after further consideration, —

It is

Ordered, That the regulations relative to speed of cars upon street railways in the city of Salem, adopted by the City Council of said city, as revised and approved, be as follows: —

Twenty miles an hour is established as the maximum speed for cars of street railway companies in the city of Salem, excepting in such portions of said city as are noted below: —

North street from junction of Mason street to Peabody town line.

Boston street from junction of Essex street to Peabody town line.

Highland avenue from junction of Essex street to Lynn line.

Loring avenue from junction of Lafayette street to Swampscott town line.

Fort avenue from Boston and Maine railroad crossing to Salem Willows.

Attest: ANDREW A. HIGHLANDS,

JULY 23, 1918. [P. S. C. 1856]

Secretary.

SUNDAY TRAINS AND BOATS.

*Petition of the Boston and Yarmouth Steamship Company, Ltd.,
for authority to run steamboats on the Lord's day.*

It appearing, after consideration, that the public necessity, convenience, health and welfare may reasonably require, within the meaning and intent of the statute, the running of the steamboats of the petitioner within the waters of the commonwealth on the Lord's day, —

It is

Ordered, That authority be hereby given to the Boston and Yarmouth Steamship Company, Ltd., to run steamboats within the waters of the commonwealth on the Lord's day during the year ending June 1, 1919, as set forth in the petition; with the understanding that the petitioner shall perform, in connection therewith, as a consequence of the authority herein granted, only such work as may prove to be necessarily incident to the running of said steamboats as aforesaid, subject, however, to the following conditions: —

1. Within the jurisdiction covered by this order no intoxicating liquors shall be sold or furnished, and no disorderly conduct, gaming or other sport be permitted, either upon said steamboats or upon the premises owned or controlled by said petitioner.

2. The Commission reserves the right to revoke the authority hereby given at any time in its discretion without previous notice to said petitioner.

Attest: ANDREW A. HIGHLANDS,

JULY 22, 1918. [P. S. C. 2091-D]

Secretary.

By similar orders, other schedules of regular Sunday boats, deemed to be necessary for the public accommodation, have been authorized as follows: —

Eastern Steamship Company, Merchants and Miners Transportation Company, Nantasket Beach Steamboat Company.

*Petition of the Boston and Maine Railroad for authority to operate
Sunday trains.*

After consideration, —

It is

Ordered, That the Boston and Maine Railroad be hereby authorized to run on the Lord's day during the period ending December 31, 1918, the trains specified in the petition dated June 14, 1918, and accompanying schedules, subject to the following conditions: —

1. No train shall be run as an excursion train.
2. The rates of fare on the passenger trains shall in no case be less than those charged on regular week-day trains between the same stations.

All previous orders authorizing the running of trains on the Lord's day on the Boston and Maine railroad are hereby revoked, such revocation to take effect when the above-named schedules are put in force.

Attest: ANDREW A. HIGHLANDS,
JUNE 20, 1918. [P. S. C. 2022-A] *Secretary.*

STATIONS AND STATION ACCOMMODATIONS.

RAILROAD.

Petition of the Wollaston Park Improvement Association for the construction of a subway and the erection of a fence between the tracks at the Wollaston station and at the Norfolk Downs station of the New York, New Haven and Hartford railroad in the city of Quincy.

Norfolk Downs and Wollaston, two local communities in the city of Quincy, are served by the Boston division of the New York, New Haven and Hartford railroad, and are distant 6.12 and 6.71 miles from Boston, respectively. Passenger traffic at these stations consists largely of commuters to and from Boston.

At Norfolk Downs the station is located on the west side of the tracks near the junction of Newport avenue, a public highway running parallel and adjacent to the railroad location, with Broadway, an intersecting street, terminating at that point. On the east side, where most of the patrons of the railroad reside, access to the station is afforded by means of Billings road, a public highway running east and west as far as the railroad location. As neither Billings road nor Broadway is laid out across the railroad, passengers from the west side are obliged to cross the outbound track at grade when boarding trains for Boston, and passengers from the east side are obliged to cross both tracks in order to reach the station or in leaving outbound trains. As there is no public highway crossing for a distance of about 1,000 feet northerly and 3,000 feet southerly, many people, not patrons of the road, also cross the tracks at the station to reach a schoolhouse and several factories which are located on the west side of the railroad. The petitioners complain that the conditions at this station are dangerous, not only for passengers, but for school children and others, and ask that a fence be erected between the tracks, and a subway or footbridge be constructed under or over them, to eliminate this danger.

If a crossing at this point is necessary for the convenience of the general public, the obligation rests with the city of Quincy

to initiate proceedings for the laying out of an extension of Billings road as a public way across the railroad location. In order to avoid a crossing at grade it would be necessary to carry the street over the tracks by means of a highway bridge. The company, however, contemplates the four-tracking of its road from Atlantic to Quincy, and the plan for the abolition of grade crossings in Quincy, as reported by the special commission and approved by the court, has been made in contemplation of the construction of these additional tracks. Any plan for the extension of Billings road across the railroad location should obviously provide for a highway bridge of sufficient length to span the two additional tracks and for the construction of a stairway to the station platform which would obviate the necessity of a subway. If this is done, the company has signified its willingness to share in the cost of construction. The city could, of course, proceed at once to develop plans for the street extension under this arrangement, but apparently neither the city nor the company desires to undertake this work under present war conditions, as it is generally agreed that this project, as well as the abolition of grade crossings in Quincy, should await more prosperous times and more settled conditions.

The only question, therefore, is whether the construction of a subway or footbridge and the erection of a fence between the tracks is necessary as a temporary measure in the interest of public convenience and safety. School children and others crossing from the easterly to the westerly side of the railroad are undoubtedly subjected to some hazard under present conditions, but there would seem to be no obligation upon the railroad company to construct a subway or footbridge for the use of trespassers. It is true that there is also some element of danger for patrons of the road who are obliged to cross the tracks in boarding or leaving trains at this station, but similar conditions are the rule rather than the exception where two or more tracks are operated. Ultimately our American railroads should in this respect be brought up to the standard of safety which is exemplified in railroad operation abroad, but this result can only be brought about gradually, and while so much remains to be done it does not seem desirable to require a duplication of expense by making structural changes which will merely serve a temporary purpose and become superfluous upon the completion of the projected scheme of permanent improvement. It is to be remembered, also, that danger under present conditions is reduced to a

minimum by the operating rules of the company, which prohibit a train on a double track location from approaching a station until the train previously loading has cleared the platform.

At the hearing it was also the general consensus of opinion that no action should now be taken which might interfere with the extension of a public way across the railroad location at a later time, and much apprehension was expressed that the temporary arrangement requested by the petitioners might tend to delay or to defeat the larger ultimate program. In view of all these considerations, and of the necessity at the present time of employing all available capital and labor in essential war work, there would appear to be no sound justification for requiring the company to make the changes desired by the petitioners at the Norfolk Downs station.

At Wollaston the station is located on the easterly side of the tracks, and about half of the patrons reside on the easterly side and half on the westerly side of the railroad. The highway known as Beale street crosses the tracks at the south end of the station location by an overhead bridge with steps leading to the station platform adjacent to the inbound track. There is also a platform on the west side of the outbound track, with a turnstile which allows passengers to pass out to, but not to enter from, Newport avenue, which abuts the railroad location and intersects Beale street at this overhead bridge. By using this bridge, therefore, it is possible for all passengers to and from Boston to board and leave the trains without crossing the tracks at grade, although passengers going from outbound trains to the easterly side of the railroad habitually cross the tracks instead of going around by way of Newport avenue and Beale street. The only persons who are compelled to cross the tracks at grade are the relatively few who have occasion to board outbound trains to reach Quincy and points beyond.

If a fence were erected between the tracks, and the turnstile at Newport avenue removed, it would be possible for passengers to board and leave all trains without crossing the tracks. Present track clearances are, however, insufficient to permit of the erection of such a fence, and the present Beale street bridge is not wide enough to make it practicable to spread the tracks. The widening of this bridge in connection with the proposed four-tracking would make it possible at a later time to erect a fence between the tracks, but passengers would be subjected to the delay and inconvenience of using a circuitous route in going to

and from the station and train. The company apparently agrees that the only satisfactory method of providing for the convenience as well as the safety of passengers using this station is by the construction of a subway as requested by the petitioners, but the company is unwilling to undertake the work at this time in view of the projected four-tracking and the grade crossing changes which involve the depression of the tracks about four feet at this point.

There would seem to be no practical difficulty in constructing a subway at this time which would be deep enough and long enough to conform to future track conditions, and which would require no alteration except the elimination of a few steps when the track changes are completed. As this subway would be in the nature of a permanent improvement necessary for the safe and convenient use of the station, and not merely a temporary expedient pending the completion of the proposed track alterations, we should be disposed, under ordinary circumstances, to require the company to build it at once. It would appear, however, that the danger incident to the present method of using the station is not so great as to warrant the construction of this subway in a time of national emergency, but that this undertaking, like the highway extension at Norfolk Downs and the Quincy grade crossing changes, should be postponed until the conclusion of the war. If the company within a reasonable time thereafter does not commence the construction of this subway, the Commission, upon any petition then filed, will enter such order as may be appropriate.

It is therefore

Ordered, That the petition be dismissed.

By the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 18, 1918.

[P. S. C. 866]

Secretary.

Petition of the Boston and Albany Railroad Company (by the New York Central Railroad Company) and the New York Central Railroad Company for determination of rental for the use of the union station in the city of Worcester.

In connection with the abolition of certain grade crossings in the city of Worcester, provision was made for the construction of a new union passenger station for the joint use of the Boston

and Albany Railroad Company, the Boston and Maine Railroad and the New York, New Haven and Hartford Railroad Company, and such changes in the railroad locations as were necessary for proper track connections to the new station. (Acts 1900, c. 387; Acts 1902, c. 508; Acts 1905, c. 422.) The entire cost of the land and 65 per cent of the cost of the station was paid by the Boston and Albany company, the balance being contributed by the Commonwealth and the city of Worcester, in accordance with the provisions of the statute of 1905. Section 2 of that statute also provided that "said station shall be used by all the railroads now entering the city of Worcester, the railroad corporations owning or operating such railroads severally yielding and paying to the Boston and Albany Railroad Company, its lessee, successors or assigns, a reasonable rent for the use thereof, which, if not agreed upon by the parties, shall be determined, and may be revised and altered from time to time at intervals of not less than three years, by the board of railroad commissioners upon a petition presented to said board by either of said corporations." The parties having failed to agree as to the reasonable rent for the use of the station, the Commission on the petition of the Boston and Albany company is asked to determine the same in accordance with the provisions of said section.

It appears that the new union station was opened on June 4, 1911, but as certain items of expense in connection with the grade crossing proceedings were still in dispute, the exact cost of the station could not then be fixed. Pending the determination of this matter the three railroad companies, in the latter part of 1911, entered into an agreement, fixing the basis upon which rentals for the use of the station should be paid by the Boston and Maine and the New Haven companies. This agreement became effective as of June 4, 1911, and by its terms was to continue in force until June 30, 1912, and thereafter until terminated by ninety days' notice from either party to the others. Under this agreement, the Boston and Maine and the New Haven companies were each to pay 20 per cent of the total cost of maintaining the station, including interest at $4\frac{1}{2}$ per cent on the cost of the land, and at 6 per cent on the cost of the building, taxes, insurance and repairs, less the rentals chargeable to each of the three companies for office space occupied at a designated rate per square foot, and less the rentals received for the restaurant, news stand and similar concessions. The parties agreed upon the cost of the land and also agreed

that the cost of the station, pending a determination of the exact amount, should be tentatively fixed at \$750,000. Prior to the execution of this agreement there had been some controversy between the parties as to whether the interest charge on the cost of the station should be figured on the gross sum of \$750,000, or on 65 per cent of that sum, representing the net cost to the Boston and Albany company after deducting the amounts contributed by the Commonwealth and the city, but Mr. Mellen, who was then president of both the New Haven and the Boston and Maine companies, finally yielded to the contention of the Boston and Albany company that interest should be figured on the gross amount.

Payments were made upon this tentative basis until 1915, when the parties attempted to arrive at a permanent adjustment of the whole matter. As all controversies in regard to the items of expense which should be included in the cost of the grade crossing alterations had meantime been settled, the parties agreed that the cost of the land should be fixed at \$470,895.50, and the cost of the station at \$787,621.31. It was also agreed that the percentage divisions of the total station expense between the three companies should be revised upon the basis of the actual use of the station as determined by the number of tickets sold, and the amount of baggage, milk and mail handled for the respective companies, such percentages to be revised on the first of January of each year, in accordance with the actual use of the station for the year previous. Under this arrangement the respective percentages of the three companies for the year 1916 would be 58.78 per cent for the Boston and Albany company, 15.73 per cent for the Boston and Maine, and 25.49 per cent for the New Haven company. The Boston and Albany company desired to have the rentals fixed upon the basis of these agreements, and the payment by each company of its proper proportion of the interest charge on the sum agreed upon as the total cost of the station. The New Haven company, however, renewed its contention that the amount contributed by the public authorities should be deducted from that sum in computing the interest charge to be paid by the tenant companies. Owing to the failure of parties to reach an agreement, the Boston and Albany company has petitioned the Commission in the pending proceedings to determine the reasonable rent for the use of the station to be paid by the Boston and Maine and New Haven companies. The parties have agreed that the award so made by the Commission shall be effective from January 1, 1916.

While the action of the Commission is not concluded by any partial agreements entered into between the parties, it appears that the cost of the land and the cost of the station have been carefully checked, that the proportion of the total expense to be paid by each company has been adjusted on a reasonable and equitable basis, and that the agreements in relation to these matters should be incorporated in any finding made by the Commission. The only matter, therefore, which remains to be determined in the present proceeding is the single issue as to whether the Boston and Maine and New Haven companies shall pay their respective proportions of a proper interest charge on the gross amount of \$787,621.31, which includes the contributions made by the commonwealth and the city, or on a sum of \$511,953.85, representing the net cost of the present station to the Boston and Albany company.

As the Boston and Albany company owned the land on which the station was erected, it claims that the title to the station and the ordinary incidents of ownership are vested in that company, and that the rental of the other railroad companies should be based upon the cost of the station, by whomsoever paid, and not necessarily upon what it cost the Boston and Albany company. In support of this view the company claimed that when a valuation is made of the property of a public service corporation for rate making purposes, donated property is a constituent of value upon which the public may be taxed in the interest of the donee; that the title to such property vests in the donee as absolutely as though it had been purchased or condemned; that the use of the property and the right of enjoyment of the profits arising from it are necessary incidents of ownership; and that the Boston and Albany company as owner of the property in question is entitled to collect from the other railroad companies, as its tenants, a rental based upon the entire cost of the premises occupied.

While the decisions of courts and commissions in regard to the status of donated property in valuation proceedings are conflicting, the principle invoked is not consistent with the Massachusetts theory that the investment made by the company is the determining basis in fixing rates, and, in any event, precedents in valuation and rate cases have no direct application to the precise question which is now an issue. The theory of the Boston and Albany company seems to rest upon the assumption that the relationship of the railroad companies here is the ordinary one of landlord and tenant. While the term "rent" is used

in the statute to designate the compensation to be paid by the other railroads to the Boston and Albany company, it is clear that some of the elements of a landlord and tenant relationship are absent. For example, the tenant can ordinarily choose his own landlord and the landlord can choose his own tenant, but here the three railroad companies are required by law to use the station jointly, and the Boston and Maine and the New Haven companies can neither abandon the premises voluntarily, nor be dispossessed of them by the Boston and Albany company. Moreover, the primary purpose of the Legislature in requiring the construction of a union station was not to provide separate accommodations for the individual use of the three railroad companies, but joint accommodations for a reciprocal and interrelated use by these companies. While the relationship is in some respects analogous to that of landlord and tenant, it is in other respects similar to that of three partners in the same enterprise.

It seems to us that the issue is not to be determined upon abstract theories of doubtful application, but upon the broad basis of a just and equitable division of the burden incurred by the Boston and Albany company in connection with the improvement made for the benefit of the three railroads jointly, and of the public, and that the Boston and Albany company has no equitable right to collect interest upon the sum contributed by the public authorities, unless it can show that this contribution was made for its sole benefit, and to reimburse it for expenditures made, or losses incurred, in connection with the construction of the station, or in the general grade crossing proceedings. The purpose for which this public contribution was made thus becomes the consideration of controlling importance in the determination of the present issue.

The Boston and Albany company contended that moneys raised by public taxation must, under the law, be expended for public purposes and cannot be given away as a mere gratuity to a railroad company or any other private enterprise; that the contributions made by the Commonwealth and the city towards the cost of this station are not to be regarded as donations but as compensation for the loss incurred by the abandonment of the old station which had been constructed at the sole expense of the Boston and Albany company; that the construction of a new station on a new site was a reasonable and necessary incident of the general grade crossing changes; that even if no special statute had been enacted, the Commonwealth and the

city under the general grade crossing law would have been obliged to make a similar contribution towards the expense of the new station; and that under the doctrine of the Westborough case, if the Boston and Albany company gets a new station in place of the old one, the amount payable by the public towards the cost of the alterations is not reduced or affected by any increment of value accruing to the railroad company as an incident of such alterations (*Westborough, petitioner*, 184 Mass. 107). In view of these contentions it will be necessary to examine the circumstances under which the old station was constructed, and to review briefly the history of grade crossing proceedings in the city of Worcester.

In 1869 a permissive act was passed which allowed the Boston and Albany, the Norwich and Worcester, the Providence and Worcester, and the Worcester and Nashua railroad companies to join in the construction and maintenance of a union passenger station, and gave them the necessary power to condemn land (Acts 1869, c. 264). As nothing was accomplished under this act, a mandatory act was passed in 1871 requiring the companies above named and the Boston, Barre and Gardner Railroad Company to "unite in a station in the city of Worcester, for the accommodation of the passenger traffic of all said corporations," such station to be located in the neighborhood of Grafton street (Acts 1871, c. 343). The act provided that the station should be erected and maintained by the Boston and Albany company and that "said station shall be used by all said corporations, the other corporations severally yielding and paying to the Boston and Albany Railroad Company a reasonable rent for the use thereof, which, if not agreed to by the parties, shall be determined, and may be revised and altered from time to time at intervals of not less than three years, by the board of railroad commissioners, upon a petition presented to said board by either of said corporations" (section 3). This station was completed in 1876, at a total cost of \$520,825 for the building, and of \$171,143 for the land. The parties having failed to agree upon the rentals to be paid by the other railroads to the Boston and Albany company, an award was made by the Board of Railroad Commissioners on January 20, 1877 (Record Book, v. 2, p. 3). After the Providence and Worcester and the Norwich and Worcester companies had become a part of the New Haven system, and the Worcester and Nashua and the Boston, Barre and Gardner companies had been absorbed by the Boston and

Maine railroad, these rentals were paid by the successor companies.

In 1890, shortly after the passage of the general grade crossing act of that year (Acts 1890, c. 428) steps were taken to bring about the abolition of certain grade crossings in the city of Worcester. There was a wide diversity of opinion in regard to the proper methods for bringing about the abolition; various recommendations and suggestions were made by successive mayors; various orders were made and subsequently amended or revoked by the city government; and various plans were adopted and in turn abandoned, but for a long time little progress was made.

In 1900 the city petitioned the Legislature to enact a law providing for a comprehensive scheme of grade crossing abolition through an elevation of the railroad tracks, and substantially in accordance with plans approved by the city council in 1899. It was, however, found impossible to secure any legislation unless the Boston and Maine crossings in the northern part of the city were eliminated from the bill. The act then passed (Acts 1900, c. 387) accordingly deals only with the crossings between the union station and Cambridge street on the New Haven railroad and Grand street on the Boston and Albany railroad, and the portion of the bill relating to the other crossings was dropped.

Subsequently, a plan was agreed upon for the elimination of the Boston and Maine tracks at Summer street and Shrewsbury street, and a substitution of a location over the viaduct to the southern side of the station. Chapter 508 of the Acts of 1902 authorized the carrying out of the plan suggested. That act also provided for such "changes, alterations, rearrangements and adaptations" in the existing union station as might be required by the abolition of the grade crossings. It developed, however, that the retention of the old station would have made it necessary for all Boston and Maine trains to back in and out of the station, and for all through trains, transferring from the New Haven to the Boston and Maine to back out of the station, and would have resulted in other complications.

After further conferences between the city and the railroad companies, it was finally agreed that a new union station should be built near the junction of the viaduct with the Boston and Albany location, which would afford a direct connection between the several railroads entering the city. This agreement was embodied in chapter 422 of the Acts of 1905, under which the pres-

ent union station was constructed. Upon its completion, the old train shed and a part of the old station were torn down. The remainder of the head house was retained, now serves as a maintenance-of-way shop and storehouse for the Boston and Albany company, and is carried on the company's books at a valuation of \$44,291.25, which is claimed to be its full present value for railroad purposes. The Boston and Albany company has, however, been able to utilize the remainder of the land under and appurtenant to the old station for a heating plant, storage tracks, switching leads and other necessary railroad purposes.

The award of the Board of Railroad Commissioners in 1877, fixing the rentals to be paid to the Boston and Albany company for the use of the old station, provided that the Norwich and Worcester and the Providence and Worcester companies should each pay \$8,000 per annum, the Worcester and Nashua company \$7,000, and the Boston, Barre and Gardner company \$3,750. The order then entered does not indicate how these figures were arrived at, but the docket in the case contains pencil memoranda apparently in the handwriting of members of the board, which seem to show the basis on which the award was made. The items considered were interest at 6 per cent on the cost of the land and building, including interest during construction, taxes, insurance, repairs, and wages of station employees, the total expense being computed at about \$60,000 per annum. The cost of lighting and heating was not included, as the rental of the restaurant and newspaper stand were regarded as an offset. The award apportioned approximately 55 per cent of the total expense to the Boston and Albany company, divided the balance among the other companies upon the basis of their relative passenger business, and provided that the Boston and Albany company should "pay all expenses of every description incurred for the common use of the station."

Counsel for the Boston and Albany company contended that the award then made did not take into account the element of depreciation in the station building. It is clear that the 6 per cent return allowed by the Board could not have included any provision for depreciation, as no bonds of the Boston and Albany company appear to have been issued at that time at less than a 6 per cent rate. Obviously, the item of depreciation should have been considered by the Board in making its award. The act of 1871 under which the station was constructed provided that "said station shall be erected and kept in repair at the sole ex-

pense of the Boston and Albany Railroad Company," and the brief of the Boston and Albany company filed prior to the award concluded with this statement: "Whatever the proportion of the Boston and Albany road may be, the expense of maintenance, the risk and depreciation and taxes will add very largely to the burden which it will be compelled to bear." The element of depreciation, including the risk of the enterprise, must, therefore, have been in the minds of the board, and if they did not include it specifically as one of the elements of cost it may reasonably be assumed that they believed it was offset by other circumstances of the case. It is to be observed that during the progress of the work of construction, numerous hearings were given by the board upon objections raised by the tenant companies as to the allocation of space and accommodations in the station, and the claim was made that a station much more elaborate and expensive than was necessary had been constructed for the glorification of the Boston and Albany company. The board, however, made its award on the basis of the total cost incurred, and practically accepted the contention of the Boston and Albany company as to the proportion of the total expense that should be borne by that company.

The finding then made by the board, after full hearing and consideration, must now be accepted as conclusive of the issues before it, and no useful purpose is served by attempting at this time, after a lapse of more than 40 years, and with no present knowledge of the original equities of the case, to review the award then made. By whatever process the conclusions of the board were reached, it is clear that the result was just and reasonable to the Boston and Albany company, as well as the other interests concerned, as no attempt was ever made to revise the award, although the act specifically provided that any determination made by the board "may be revised and altered from time to time at intervals of not less than three years" upon petition of either of the companies.

In the case of the present union station, the parties, as will be shown later, have estimated its useful service life at about 38 years. In view of this fact and of general experience in regard to the use of structures of this character, it appears that the old station after being in use for 35 years had practically reached the normal end of its useful life. The loss through depreciation so far as properly chargeable to the Boston and Maine and New Haven companies must be considered to have been made good

out of the rentals paid. The remainder of the depreciation is merely an incident of the Boston and Albany company's long occupancy of the premises and a part of the ordinary cost of operation. While this loss may not have been balanced by a depreciation account on the company's books, it is matter of common knowledge that the company, during this period, made large expenditures out of income, for additions and betterments, which more than offset the reduction in the book value of the old station property. It is reasonable, therefore, to assume that the depreciation in the old station, chargeable to the Boston and Albany company, has already been absorbed by the rate paying public, and has resulted in no loss to the corporation.

Moreover, the depreciation in the station is offset, to a considerable extent, by the appreciation of the land. The land taken for the old station, which was located on the easterly side of Grafton street, has an area of 216,679 square feet, and cost the company \$171,143, or about 79 cents a square foot. The present value must be largely in excess of that amount, as the land purchased on the westerly side of Grafton street for the site of the new station, and containing about 87,000 square feet, cost \$470,295, or approximately \$5.40 per square foot. In this connection it is significant that, under the act, no contribution was made by the public authorities towards the cost of this land, and that the Boston and Albany company apparently acquiesced in the view that the new land was merely a fair equivalent for the old. In view of all the facts, it does not seem to us that there is any loss resulting from the abandonment of the old station which can equitably be charged against the Boston and Maine and New Haven companies as an element of the cost of the new station.

There is also, in our opinion, no sound basis for the contention of the Boston and Albany company that the contributions of the Commonwealth and the city were, in legal intendment under the theory of the general grade crossing law, made to offset the loss incurred by the Boston and Albany company through the abandonment of the old station. It is well settled law that, under the reserve power to alter or amend their charters, railroad corporations which were originally permitted to cross certain highways at grade may be forced from time to time, as occasion requires, to abolish such grade crossings and to pay the whole or any part of the expense of the alterations, including the cost of relocation of a station where such relocation is reasonably inci-

dent to a relocation of track. Where a contribution is made by the public authorities towards the cost of grade crossing alterations, it is not to reimburse the railroad company for the taking of its property or of any vested right, but is an exercise of the power of the Legislature to enact all needful laws to prevent accidents and to provide for the convenience, as well as the safety of the public, while traveling on the highways or while being transported in the cars of the railroad company. (*Norwood v. N. Y. & N. E. R.R.*, 161 Mass. 259; *Newton, petitioner*, 172 Mass. 5; *Westborough, petitioner*, 169 Mass. 495 and 184 Mass. 107; *Waltham, petitioner*, 206 Mass. 208; *N. Y. & N. E. R.R. Co. v. Bristol*, 151 U. S. 556.) As stated by the court in *Woodruff v. Catlin* (54 Conn. 277, 295) with reference to a similar statute: "Neither in intent nor effect does it increase or diminish the assets either of the city or the railroad corporations. It is the exercise of the governmental power and duty to secure a safe highway." In other words, if a contribution is made by the public towards the cost of alterations, it is not as compensation for losses incurred by the railroad company, but as a reasonable equivalent for the benefits received by the public through the greater safety and convenience of highway and railroad travel.

In the present case, the principal benefit to the public has been in securing better facilities for transfer between the various railroads entering the city, and the contributions of the Commonwealth and the city were not made for the sole benefit of the Boston and Albany company, or exclusively by its patrons, but equally by and for the benefit of the patrons of the other companies, and in the general public interest. We are, therefore, of the opinion that the amount contributed by the public authorities towards the cost of the station cannot be made the basis of a fixed charge to be paid by the other railroad companies to the Boston and Albany company, and that the reasonable rental should be based on the net cost of the present station to the Boston and Albany company.

As already stated, the parties have agreed that interest on the land should be computed at the rate of $4\frac{1}{2}$ per cent, which is the average rate of the long-term bonds issued by the Boston and Albany company to finance the station expenditures, but that interest on the cost of the station should be figured at 6 per cent. This additional $1\frac{1}{2}$ per cent, which is intended to cover depreciation, would yield a sufficient amount, compounded semi-annually, to wipe out the entire capital charge in about 38 years, which

is estimated to be the useful life of the station. It is to be remembered, however, that if a new station is to be built at the end of that period to replace the present structure, no contribution can be expected from the public authorities toward the cost of this future station, but that the entire cost must be met by the railroad companies. It appears, therefore, that interest should be figured at $4\frac{1}{4}$ per cent on the sum of \$511,953.85, which is the net cost of the station to the Boston and Albany company, but that the depreciation charge of $1\frac{3}{4}$ per cent should be figured on the total cost of the station amounting to \$787,621.31. This is equivalent to a uniform rate of 6 per cent upon the sum of \$592,356.66. The reasonable rental to be paid by the Boston and Maine and New Haven companies should, therefore, be determined upon the basis of existing agreements between the parties and the payment of 6 per cent upon the sum of \$592,356.66 to cover interest and depreciation on the cost of the building.

ORDER.

Petition of the Boston and Albany Railroad Company (by the New York Central Railroad Company) and the New York Central Railroad Company for determination of rental for the use of the union station in the city of Worcester.

After notice and hearing and further investigation, —

It is

Ordered, That the Commission hereby determine that the reasonable rent to be paid by the Boston and Maine Railroad and the New York, New Haven and Hartford Railroad Company and their respective successors or assigns, to the Boston and Albany Railroad Company, its lessee, successors or assigns, for the use of the union passenger station in the city of Worcester, constructed under the provisions of chapter 422 of the Acts of 1905, shall be computed in the following manner: —

1. The Boston and Maine Railroad and the New York, New Haven and Hartford Railroad Company shall pay to the Boston and Albany Railroad Company, as rental, their respective proportions of —

(a) All premiums for insurance placed by the Boston and Albany Railroad Company upon the said station.

(b) All the taxes and assessments which may be levied upon or in respect of said station property.

These two items shall be paid annually.

(c) Interest reckoned at the rate of four and one-quarter per cent per annum upon the cost of the land for said station, which shall be considered as fixed at \$470,895.50.

(d) A return at the rate of six per cent per annum, representing an interest charge of four and one-quarter per cent and a depreciation charge of one and three-quarters per cent upon the cost of the station, exclusive of the land, which shall be considered as fixed, as of the effective date of this award, at \$592,356.66. This amount shall be increased from time to time by the net cost of additions, alterations, betterments or renewals made by consent of the parties, or rendered necessary by the act of God, fire, civil commotion, violence, casualty or operation of law, or required by any public authority, less the proceeds of insurance, if any, and subject to such adjustment, on account of payments theretofore made to cover depreciation upon property destroyed or abandoned in connection with renewals or replacements so made, as may be agreed to by the parties or determined by the Commission upon petition of any party under the statute.

(e) The cost of maintenance and repairs of said station and such renewals as are not chargeable to capital account.

(f) The cost of operating said station, including the salaries and wages of all station employees and the cost of heat, light and water used at said station, and the cost of all supplies and services furnished in joint behalf.

(g) Any sums paid or allowed by the Boston and Albany Railroad Company on account of loss or damage or personal injury arising out of the use of said station by lessees or licensees, other than the said railroad companies.

These five items shall be payable monthly.

In reckoning the items (e) and (f) there shall be added to the pay roll cost of labor ten per cent and to the stock prices of material fifteen per cent to cover supervision, inspection, handling, transportation, accounting and similar items of expense to the Boston and Albany Railroad Company.

From the total amount of the five items (c), (d), (e), (f) and (g), there shall be deducted before determining the respective proportions chargeable against the Boston and Maine Railroad and the New York, New Haven and Hartford Railroad Company, the following:—

(x) Such sums as the Boston and Albany Railroad Company may receive from lessees or licensees other than the said railroad companies for the use of said station and facilities.

(y) The entire amount chargeable against all of the said rail-

road companies on account of office space occupied by them, respectively, at the rate hereinafter specified.

2. Said proportions shall be 58.78 per cent for the Boston and Albany Railroad Company, 15.73 per cent for the Boston and Maine Railroad, and 25.49 per cent for the New York, New Haven and Hartford Railroad Company for the year ended December 31, 1916, and for each year thereafter during the continuance of this award, subject to any revision which may be made by agreement of parties, as of the first day of January of each year, upon the basis of the number of tickets sold and the amount of baggage, milk and mail handled at the station for the respective companies during the preceding year.

3. In addition to the payments hereinbefore provided for, the Boston and Maine Railroad and the New York, New Haven and Hartford Railroad Company shall each pay to the Boston and Albany Railroad Company for the office space occupied by them respectively in the said station, at the rate of ninety cents per square foot per annum. This sum is to include light, water and heat and all such payments are to be made monthly.

4. This award shall be effective as of the first day of January, 1916, and shall continue in force thereafter until terminated in accordance with the provisions of section 3 of chapter 422 of the Acts of 1905.

For the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 9, 1918. [P. S. C. 1998]

Secretary.

STREET RAILWAY.

Petition of the Boston Elevated Railway Company for approval of plan numbered 15551, dated January, 1918, showing relocation of spur and relay track at the temporary terminal station in Everett.

The annexed plan marked "Boston Elevated Railway Elevated and Subway Construction Everett Extension Temporary Terminal Station Spur and Relay Track Inbound," and numbered 15551. is hereby approved.

FREDERICK J. MACLEOD,
EVERETT E. STONE,
JOHN F. MEANEY,
JOSEPH B. EASTMAN,
CHARLES A. RUSSELL,

JANUARY 14, 1918. [P. S. C. 2042]

Commissioners.

MISCELLANEOUS.

STREET RAILWAYS EARNING FIVE PER CENT DIVIDENDS.

Communication.

To the Honorable the Bank Commissioner of the Commonwealth, State House, Boston, Mass.

DEAR SIR: — Pursuant to the provisions of Acts of 1908, chapter 590, Part V, section 68, *Fifth*, and amendments thereof, and of section 2 of chapter 122 of the General Acts of 1917, we certify and transmit the following list of street railway companies incorporated in this Commonwealth which appear from the returns made by them and filed with the Commission for the year ended December 31, 1917, to have annually earned and properly paid without impairment of assets or capital stock, an amount in dividends equal to five per cent on all outstanding capital stock in each of the five preceding years: —

Boston and Revere Electric Street Railway Company.
East Middlesex Street Railway Company.
East Taunton Street Railway Company.
Fitchburg and Leominster Street Railway Company.
Union Street Railway Company.
West End Street Railway Company.
Worcester Consolidated Street Railway Company.

The statutes cited above, as construed by this Commission and its predecessor, do not require the Commission to determine whether the provisions for maintenance and depreciation made by street railway companies as shown by their returns have or have not been adequate.

For the Commission,

FREDERICK J. MACLEOD,

JUNE 1, 1918. [P. S. C. 2147]

Chairman.

CIRCULARS.

To All Common Carriers under Federal Control performing Intrastate Service within the Commonwealth of Massachusetts.

Whereas, The President of the United States, acting through the Director-General of Railroads, as set forth in General Order No. 28 of the Director-General, dated May 25, 1918, has initiated certain freight, passenger and baggage rates, fares, charges, classifications, regulations and practices by filing the same with the Interstate Commerce Commission under authority of an act of Congress, approved March 21, 1918, entitled, "An Act to Provide for the Operation of Transportation Systems While Under Federal Control, for the Just Compensation of Their Owners and For Other Purposes;"

And whereas, The tariffs so initiated by the President are to become effective on June 10, 1918, so far as they relate to passenger and baggage service, and on June 25, 1918, so far as they relate to freight service, — it is

Ordered, That common carriers subject to the supervision of this Commission be hereby permitted, under the authority of section 20 of chapter 784 of the Acts of 1913, to make changes in intrastate rates, fares, charges, classifications, regulations and practices, to become effective in less than thirty days, when such changes are made under authority of the Director-General, United States Railroad Administration; *provided*, that printed copies of such tariffs bear a notation showing that the rates therein contained are initiated by the President of the United States through the Director-General, United States Railroad Administration, in General Order No. 28 dated May 25, 1918, be filed with this Commission in the usual manner, within five days of the effective date of the tariff, and not later than June 30, 1918, and designated by a distinguishing serial M. P. S. C. number.

This order is issued without formal hearing and shall not affect any subsequent proceeding relative to any schedule filed hereunder.

Attest: ANDREW A. HIGHLANDS,

JUNE 8, 1918. [P. S. C. 2049-B]

Secretary..

Order of the Commission relative to certain quarterly statements as to payments by railroad, street railway and other corporations and associations subject to its supervision.

On November 24, 1913, the Commission adopted an order (P. S. C. 173) requiring the various utilities subject to its supervision to file quarterly statements, open to public inspection, showing the amounts expended on account of advertising, legal and miscellaneous general expenses. This order followed disclosures as to various improper expenditures of the New York, New Haven and Hartford Railroad Company in influencing legislation and public opinion, and was designed, by affording publicity, to operate as a deterrent to such practices in the future.

Recently the principal railroad corporations operating in the commonwealth have come under direct control of the federal government, and the management of the Boston Elevated Railway Company has been placed in the hands of a board of public trustees appointed by the Governor. Under the circumstances we see no reason why these companies should now be required to file the statements required by order No. 173, since their expenditures are directly in the control of public authorities.

The accounting department of the Commission, with whom the statements are filed, also informs us that in a comparatively large number of cases the expenditures reported are small in amount and importance, and that its files are being encumbered with records which are of little or no value. Upon consideration, it seems to the Commission that time and expense will be saved and procedure simplified if provision is made so that if the total expenditures of any company during any quarter, for the purposes specified, do not exceed \$2,500 it may report that fact without furnishing details.

It is therefore

Ordered, That the following corporations, which are now under direct public control, are hereby excused from the operation of Public Service Commission order No. 173 until otherwise ordered by the Commission: —

Boston and Maine Railroad.

Central New England Railway Company.

Central Vermont Railway Company.

New York Central Railroad Company (lessee of the Boston and Albany Railroad Company).

New York, New Haven and Hartford Railroad Company.

Union Freight Railroad Company.

Boston Elevated Railway Company.

And it is

Further ordered, That if in any quarter the total payments of any corporation or association, subject to the supervision of this Commission, for the purposes specified in Public Service Commission order No. 173, amount to not exceeding \$2,500, said corporation and association shall submit to the Commission a sworn statement to that effect, and shall be excused from submitting the details of such payments required by said order No. 173.

By order of the Commission,

ANDREW A. HIGHLANDS,

OCTOBER 10, 1918.

[P. S. C. 2295]

Secretary.

EXIGENCY — CERTIFICATE.

Petition of the Directors of the Fore River Railroad Corporation for certificate that public necessity and convenience require the construction of a railroad in the city of Quincy and town of Braintree.

After notice and hearing and full consideration, — it is

Ordered, That the Commission hereby certify that public convenience and necessity require the construction by the Fore River Railroad Corporation of a railroad, as proposed in its agreement of association, beginning at a point upon the line of the New York, New Haven and Hartford Railroad Company where the private railroad now owned by the Fore River Shipbuilding Corporation (Bethlehem Shipbuilding Corporation, Ltd., assignee) joins said New York, New Haven and Hartford railroad in that part of Braintree known as East Braintree, and extending to a point where the said private railroad of the Fore River Shipbuilding Corporation (Bethlehem Shipbuilding Corporation, Ltd., assignee) enters upon the property of the said Fore River Shipbuilding Corporation (Bethlehem Shipbuilding Corporation, Ltd., assignee) in the city of Quincy, in the county of Norfolk, the route of said railroad being shown upon plan filed by the petitioner in this office on August 24, 1917, said plan bearing date of June, 1917.

Attest: ANDREW A. HIGHLANDS,

MAY 27, 1918.

[P. S. C. 1877]

Secretary.

FENDERS OR WHEELGUARDS.

Petition of the Bay State Street Railway Company for approval of type of fender and wheelguard for use on certain cars of its railway.

After notice and hearing and further consideration, — it is

Ordered, That the approval of the Commission be hereby given, under the provisions of section 90 of Part III of chapter 463 of the Acts of 1906, to the use on cars of the Bay State Street Railway Company of a device commonly known as the H. B. lifeguard or the automatic wheelguard, as shown by photographs attached to the petition on file in this office, said photographs being of car No. 1304 and marked "Ship Yard," when attached to a car in accordance with section 2 of the circular letter of the Board of Railroad Commissioners issued under date of September 15, 1910.

This approval may be modified or revoked at any time in the discretion of the Commission.

Attest: ANDREW A. HIGHLANDS,

OCTOBER 30, 1918. [P. S. C. 2296]

Secretary.

SMOKING ON ELEVATED TRAINS.

Petition of Benjamin P. Sands that the Boston Elevated Railway Company be ordered to discontinue its practice of allowing smoking in elevated and subway trains.

Memorandum.

The enactment of chapter 159 of the Special Acts of 1918, under which entire control over the service of the Boston Elevated Railway Company was transferred to a board of trustees created by the act, has placed this petition beyond the jurisdiction of the Commission. The following letter, dealing with the subject matter, however, has been sent by the Commission to the Board of Trustees created by the new statute: —

SEPTEMBER 7, 1918.

*Board of Trustees, Boston Elevated Railway Company, 101 Milk Street,
Boston, Mass.*

GENTLEMEN: — Some months ago this Commission received a petition from Benjamin P. Sands asking that the Boston Elevated Railway Company be ordered to discontinue its practice of allowing smoking in elevated and subway trains. A hearing upon this petition was held on

April 10, 1917. Subsequently, upon request of the Cigarmakers' International Union No. 27 and of the Tobacco Trades Association of Massachusetts, the proceedings were reopened and a further hearing was held on May 3, 1917.

Not long afterward the Commission, acting under section 14 of chapter 373 of the Special Acts of 1917, employed Mr. John A. Beeler to make a study of the operating methods and practices of the Boston Elevated company and this smoking car question was referred to him. His report, which was rendered in November, 1917, contained the following paragraphs:—

Smoking cars are regularly operated on all of the rapid transit trains, except the shuttle line between North and South stations. In order to prevent confusion the smoking car is always made the last one in the train.

The operation of smoking cars results in a material terminal delay on the main line at the Forest Hills station. As the elevated terminates with a stub end at Forest Hills, the car entering the station at the rear as a smoker must be cleaned out for general occupancy as the first car on the return trip. The time allowed for this purpose is three minutes, and the services of four car cleaners are required. In addition, the trains are each delayed this amount, which requires the use of equipment otherwise unnecessary. In the limited time allowed for cleaning, it is not possible to keep or put the cars in a perfectly sanitary condition, and considerable complaint has been heard from passengers on the condition of the front car leaving Forest Hills.

The entire time of the run from Forest Hills to Sullivan square is only 26 minutes, and the average passenger uses the train for much less than one-half of that time. To deprive a patron of the privilege of smoking for ten minutes does not appear to be a serious hardship, and will result in a saving of time and car cleaners at terminals, and will keep the cars in a more sanitary condition.

The conditions surrounding the use of smoking cars in the Cambridge subway are slightly different. In this case smoking compartments are provided at each end of the train, so that no time is lost at terminals for cleaning. On the other hand, notwithstanding the efforts of the company to keep these cars clean, the continual use of these compartments for smoking results in a general unsanitary and even filthy condition, so much so that the smoking should also be eliminated on these cars.

A feature which has been observed is that the smoking cars or compartments are usually slower in loading than other parts of the train. The time consumed in stops depends, therefore, on the number of passengers entering and leaving the smoker. The doors of these compartments must remain open longer than the remainder of the train, thus increasing the time of stop. Since the smoker is always the last car in the train, the rear brakeman cannot give the starting signal until after the doors of the smoker are closed, which results in an additional delay. Elimination of the smoking cars will thus result in a reduction in the time of stops and a consequent reduction in the running time. It is estimated by the company that the extra expense of cleaning cars at Forest Hills alone is \$6,000 per year, which would all be saved if smoking were discontinued. The release of equipment would have a value in fixed charges of over twice this amount.

By chapter 159 of the Special Acts of 1918 entire control over the service of the company was vested in your board, this Commission no longer has power to deal with this smoking car matter, and it must therefore be referred to you. In doing so, however, we desire to offer certain brief comments in the hope that you may find them of assistance.

Undoubtedly the smoking car is a convenience, especially to working-men who are not permitted to smoke throughout the day at their work, but the runs on rapid transit lines are so short that the deprivation, if the car should be abolished, would not be great. The provision of such accommodations is not nearly so important as it is on the steam lines. The tendency throughout the country on the rapid transit lines seems to be to limit or do away with the privilege. In New York city smoking is prohibited in the subway stations as well as in the cars, and this is true in Philadelphia. Observation shows, also, that a rather surprising percentage of the men who ride in the smoker do not smoke at all. It is true, however, that the car serves a secondary purpose, to some extent, by providing something similar to a second-class coach in which laborers, with garments soiled by their work, may ride; but with the longer trains now in use it is becoming more and more the case that such passengers board the nearest and most convenient car instead of seeking the smoker.

The objections to the smoking cars or compartments have, we feel, a good deal of weight. As Mr. Beeler points out, it is difficult to keep them clean. If this affected only the smokers who use them and who are responsible for the unclean conditions, it would be of lesser consequence, but on the main elevated line the effect is more generally felt because of the frequent shifts at the Forest Hills stub-end terminal. An important objection, also, is the delay at the stations mentioned by Mr. Beeler and the delay at Forest Hills caused by the necessity of cleaning the car at the end of each round trip. The question of expense is a minor consideration, for the saving secured from the elimination of the cars would be relatively very small. Nor are we impressed by the counter-argument, strongly urged at one of the hearings, that the continuance of these cars is needed for the welfare of the cigar and tobacco industries of Massachusetts.

On the whole, it is our belief that the elimination of the smoking cars, at least on the main line, would prove in the long run to be in the public interest. We have not felt, however, that it was wise to take this step unless it could be accompanied by a distinct improvement in service. During the past year, certainly, the company has been furnishing an inferior service and its ability to make improvements has been limited by physical and financial conditions intensified by the war. At a time of general dissatisfaction with accommodations we have not thought it wise to deprive a large section of the public of a convenience which they regard as important unless all the advantages of the change to the public generally could at the same time be demonstrated in schedules and service, and this has not appeared to be feasible. In other words, while the objections to the smoking car have weight, they are not so important that postponement of its elimination, for the reasons above stated, is in our judgment open to reasonable criticism.

The legislation of this year under which you have assumed office was intended to improve financial and physical conditions which have stood in the way of needed betterments of the service, and it may be anticipated

that it will ultimately have that result. At no distant date, therefore, it may prove that the elimination of the smoking cars will be a desirable, if not essential, part of a program for such betterments. In this connection may we not take the liberty of calling your attention to Mr. Beeler's suggested plan for substituting rapid transit in place of surface car operation in all subways where the latter is now employed, an important incident of which would be better spaced and more frequent service on the main elevated line through the Washington street tunnel. While various changes in this plan may be found desirable, and while it requires the expenditure of a certain amount of new capital, we believe that it is founded upon correct principles which would lead, not only to improved service, but to enhanced economy of operation.

Very truly yours,

FRED J. MACLEOD,
Chairman.

In view of the facts above stated, the petition is placed on file.

By the Commission,

ANDREW A. HIGHLANDS,
Secretary.

SEPTEMBER 7, 1918.

LIFTING JACKS.

Applications of the New York, New Haven and Hartford Railroad Company, the Boston and Albany Railroad, the Boston and Maine Railroad and the Boston, Revere Beach and Lynn Railroad Company for approval of type of lifting jacks.

Under the provisions of section 168 of Part II of chapter 463 of the Acts of 1906, which re-enacts chapter 372 of the Acts of 1870 and amendments thereto, every railroad corporation is required to equip its trains and passenger cars with a specified list of tools for use in case of accident. Upon the recommendation of the Commission, chapter 141 of the General Acts of 1917 was enacted, which provides that the Commission "may require trains or cars to be equipped with other tools in substitution for or in addition to" those already prescribed.

In accordance with the amended statute, public hearings were given and conferences were held, and on October 30, 1917, an order prescribing regulations relative to emergency tools and appliances on railroad trains and cars was adopted (P. S. C. 1752). One requirement is that every railroad corporation shall equip each of its trains, for use in case of accident, with two lifting jacks 24 inches or more in height and not less than 25 tons capac-

ity each, the type to be approved by the Commission. Following the applications for approval of various types of lifting jacks, tests of them were made by the Inspection Department in the presence of the Commission and representatives of the railroad corporations and of the railroad employees.

After consideration, —

It is

Ordered, That the order of the Commission under date of October 30, 1917, relative to emergency tools and appliances on railroad trains and cars be amended so that the second paragraph under the heading "Train Tools" shall read as follows: —

Two lifting jacks, which shall be 24 inches or more in height and not less than 25 tons capacity each for use on roads of standard gauge, the type to be approved by the Commission.

It is

Further ordered, That the Commission hereby certify its approval, for use on standard gauge railroads, of the type of lifting jack submitted by the New York, New Haven and Hartford Railroad Company in compliance with the order of the Commission dated October 30, 1917 (P. S. C. 1752), as shown on blue print numbered 12812, and dated January 2, 1918.

It is

Further ordered, That the Commission hereby certify its approval of the use by the Boston, Revere Beach and Lynn Railroad Company of types of lifting jack, each 24 inches in height and of 20 tons capacity, described in its petition.

It is

Further ordered, That the types of lifting jack submitted by the Boston and Albany Railroad and the Boston and Maine Railroad be disapproved.

Attest: ANDREW A. HIGHLANDS,

Secretary.

JUNE 18, 1918. [P. S. C. 1752, 1990, 2037, 2165, 2166]

EMERGENCY TOOLS.

Modification of regulations of the Commission relative to Emergency Tools and Appliances on Railroad Trains and Cars.

After consideration, —

It is

Ordered, That the regulations prescribed by the Commission under date of October 30, 1917, relative to emergency tools and

appliances on railroad trains and cars (P. S. C. 1752), be hereby amended by striking out in the fourteenth line following the sub-heading "Train Tools" on page two of said regulations the words: "Equipment for first aid to injured persons," and substituting in place thereof the following paragraph:—

Every railroad corporation shall install equipment for first aid to injured persons in all baggage, combination and caboose cars owned and regularly operated by said corporation.

By the Commission,

ANDREW A. HIGHLANDS,

NOVEMBER 8, 1918.

[P. S. C. 1752]

Secretary.

WHISTLING.

Petition of residents of that part of Swampscott known as Phillips Beach for the prohibition of whistling on the Boston and Maine railroad at the grade crossings of Humphrey street and Beach Bluff avenue in that town.

A petition for the discontinuance of whistling at these as well as the Sea View avenue crossings was presented to the Board of Railroad Commissioners, the predecessor of this Commission, in 1912. After a hearing and a view, the board prohibited the whistling of locomotives on all eastbound trains approaching Sea View avenue, and on all westbound trains approaching Beach Bluff avenue, but declined to order the abolition of whistling at Humphrey street and at Beach Bluff avenue eastbound.

After notice, hearing, and an investigation and report by the Inspection Department of the Commission, it appears that there has been no material change in the conditions surrounding these crossings since the finding of the Board of Railroad Commissioners in 1912, except that a few more houses may have been erected in the vicinity.

Humphrey street is a main thoroughfare between Swampscott and Marblehead and the crossing is extensively used by both teams and automobiles. The street crosses the tracks of the Marblehead branch of the Boston and Maine railroad at grade at a point about 250 feet east of the Phillips Beach railroad station. The Bay State Street Railway Company also operates a line between these two towns, which passes over this crossing at grade. There is also a street known as Phillips avenue, on the

southerly side of the railroad which intersects Humphrey street at the crossing. Complicating the situation still further at this point, there is a private right of way, more or less used by the public, on the northerly side of the track, running parallel therewith upon the location of the railroad, which is bounded on the northerly side by a wall distant approximately 15 feet from the main track rail.

The view approaching the Humphrey street crossing from the north is somewhat limited. Notwithstanding the fact that all regular trains over the branch stop at the nearby Phillips Beach station and that it is protected by a crossing-tender and gates when such trains are run, the conditions at this crossing are unusual and the element of danger is enhanced by the private right of way. The railroad company contends that, if whistling is abolished, it would be advisable to install an annunciator bell in the gateman's cabin. The Inspection Department of the Commission reports that, with the limited view afforded in approaching the crossing in certain directions, the many different ways leading to it, the operation of street cars over it, the abolition of whistling at this crossing, even if an annunciator bell were installed, would not be justified, and the Commission agrees with this view.

Concerning that part of the petition relating to Beach Bluff avenue, the Commission sees no reason to annul or change the order of the Board of Railroad Commissioners above referred to. The petition is therefore dismissed.

For the Commission,

ALLAN BROOKS,
Assistant Secretary.

MARCH 7, 1918. [P. S. C. 1901]

EXPENSES OF OFFICE.

EXPENDITURES FOR YEAR ENDED NOVEMBER 30, 1918.

Commissioners' salaries,	\$33,833 34
Secretaries' salaries,	10,500 00
Accounting Department,	8,850 00
Engineering Department,	10,637 95
Inspection Department,	33,672 62
Rate and Tariff Department,	4,000 00
Telephone and Telegraph Department,	8,654 06
Clerical assistance and messenger services,	12,244 33
Experts,	1,414 00
Office supplies and contingent expenses,	9,294 34
Printing and binding annual report,	9,279 83
Rent of office,	13,500 00
Stenographic reports of hearings,	5,391 52
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Total,	\$161,271 99
Reports of inquests,	\$3,011 98

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